CATALOGUES OF ART EXHIBITIONS ORGANIZED BY THE ARTS COUNCIL OF GREAT BRITAIN REPUBLISHED ON MICROFICHE

Published on microfiche by:

Chadwyck-Healey Ltd
45 South Street
Bishops Stortford
Herts CM23 3AG
England

Somerset House
417 Maitland Avenue
Teaneck
New Jersey 07666
USA

Date of publication and production of master: 1975

Series: The purpose of this series is to make available those catalogues that have lasting interest through their text or their illustrations. Catalogues and cumulations of titles in the series are available from the publishers.

Serial numbers: Each title is given a seven-figure serial number placed in the top right hand corner of the microfiche title strip. This is an accession number. The first figure indicates the number of the list in which the title first appears; the first three-figure group signifies the gallery or museum; the second three-figure group the accession number for that title.

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Technical data:

Producing laboratory: Micromedia Ltd, Kidlington, Oxford

Charles Biederman

Arts Council 1969

Charles Biederman

Arts Council of Great Britain 1969.

The work of Charles Biederman is little known in this country. The Arts Council was therefore glad to take up Mr Robyn Denny's suggestion that the situation should be remedied with a full-scale retrospective exhibition.

The Council is deeply grateful to the artist for the interest he has taken in the exhibition, for his visual introduction to this catalogue, and for much indispensable help and advice. Mr Biederman also selected the works shown, in consultation with Mr Denny.

We should like to express our thanks to Mr Jan van der Marck for his comprehensive introduction to the catalogue and for the biographical and bibliographical information he provided, and to Mr Denny for his foreword and much help with all the arrangements.

Special thanks are due to the owners who have made works available. An index of lenders appears at the end of the catalogue.

Many others have generously given their assistance and among them we are especially indebted to Mr Tony Reichardt of the Marlborough New London Gallery, Mr Nicholas Usherwood of the Royal Academy, Miss Renée Cameron of the French Embassy in London, Mr Eric Gibson, Mr A. Chester Beatty, Dr D. B. Thomas of the Science Museum, Miss E. Royal and Mr R. E. Lassam of Kodak Ltd, Miss Elizabeth Clarke of Thames and Hudson Ltd and Miss V. Babbington-Smith and Mr J. P. Fuller of the Victoria and Albert Museum.

Gabriel White
Director of Art
Arts Council of Great Britain

London, Hayward Gallery
18 September–23 October, 1969

Leicester, Museum and Art Gallery
29 November, 1969–11 January, 1970

On reverse: Landscape views near the artist's home

Charles Biederman

A retrospective exhibition
with especial emphasis on the
Structurist works of 1936-69

Arts Council of Great Britain 1969

Foreword

Very few works by Charles Biederman have been seen in England. Two Structurist reliefs were shown in London in 1966,[1] and before that he exhibited here once only, in a mixed exhibition at the Mayor Gallery in 1936.[2] In the thirty years which separate these two events, Biederman carried through one of the most radical and single-minded attempts in modern art to formulate a new definition for art and its relation to the organic world. This attempt has been the subject of much misunderstanding, false interpretation, and neglect, many people knowing of Biederman only as a theorist, through his articles and books and his copious correspondence, but very few having seen his work. This exhibition, covering the full sweep of Biederman's Structurist development, its roots, sources, and current practice, as well as including a representative selection of his earlier paintings and graphic work, is the most complete survey to have been shown anywhere.

The reasons for Biederman's neglect are manifold. To some extent he is the victim of his own singular dedication which is unyielding in its declaration for a precise historical and moral posture for the artist. This has been expressed consistently in his writings and has brought him a small but select following who have accepted his beliefs either *in toto* or in part. But for many the theory is unacceptable, and since so little of Biederman's work has been seen, even by those who know his writings well, the gulf between the two has until now never really been bridged, and the image of his practice as an artist remains blurred and distorted by the quality of his commitment as a theorist on the state of art, and propagandist for what it might become.

Essentially the neglect of Biederman's achievements must be seen in the context of the developing pattern of postwar art, its influences and pressures, its increasing mobility of effect and taste, its systems of presentation and communication, and its shifting network of relationships. Biederman has made a firm stand for a certain condition of art. Embodied in this concept are specific prerequisites, priorities and demands which have from time to time fleetingly been reciprocated, but more usually have been at odds with developments in recent American art, from which Biederman has remained aloof. At a time when other artists in America were attempting to realize a sensibility independent of European roots, Biederman was firmly declaring his debt to analytical directions in European art. Whilst art in America focused on the idea of 'object' as an entity separated from the natural world, Biederman was systemizing the Structurist comprehension of nature as a source of art. As American art became increasingly community conscious and metropolitan, Biederman remained separate and isolated in a rural mid-west community for which he had opted in the late 'thirties where 'conditions were precisely those which future art required'.[3] As painting and sculpture assumed an ascendant role in American culture, Biederman declared that 'both had become obsolete'.[4]

Structurism as a theory and method of creation is Biederman's invention, and is the term he introduced in 1952 to designate his work from the late 'thirties onwards, indicating his involvement with 'the structural process level of reality'. It marginally relates to some current developments in Europe and the United States, but in terms of its derivation and sources, its formal dialectic and execution, it is in conflict with most of the major developments in modern art and has never reached more than a specialized audience.

This audience is composed mostly of other artists who have communicated through network contacts of a preceptive spirit which have usually occupied an inconspicuous role in the modern art arena. What connects them and their activities is, on the one hand, an ideology, and on the other a belief in the evolu-

[1] At the Marlborough New London Gallery, in an exhibition entitled *Reliefs, Sculpture.*

[2] *Cinq Peintres Américains: Biederman, Ferren, Gallatin, Morris, Shaw.*

[3] 'Art in Crisis', *Studies in the Twentieth Century,* 1, p. 39, Troy, N.Y., 1968.

[4] *Ibid,* p. 40.

tionary process in art derived from certain basic premises. As Jan van der Marck has said, 'their approach is programmatic. They are concerned with the technical and conceptual issues in the making of their works. They have a mathematical or natural science orientation. Finally they have a social ethic that may strike the critic as utopic.'[1] These contacts are international, cutting across the boundaries that are more usually regarded as the containers of a national sensibility. In its didactic orientation, concurrent at some points of ideology and history, disputant at others, this network represents in its widest aspect a substantial area of sustained polemic and research for which there is no obvious precedent in art, and which has never been accurately documented.

The relationship between Biederman and other artists of like or parallel determination has often been the subject of mistaken attributions, speculation, assumption, and guesswork. Especially so in the case of artists in this country,[2] some of whom were corresponding with Biederman as early as 1952,[3] but none of whom saw any of his work until ten years later,[4] and some not until 1966.[5] Victor Pasmore, for example, got hold of Biederman's celebrated book, *Art as the Evolution of Visual Knowledge*,[6] in 1951, and made his first transparent relief in 1952. The relationship between the one event and the other is still unclear. The fact remains that Pasmore's conversion to abstract art has always been regarded as one of the more glamorous landmarks in British postwar art, and Biederman's role in this particular, whilst not being overstressed, at least should not be underestimated, and can with this exhibition be put into proper perspective. Equally so in the cases of those other artists here whose development, whilst not being so conspicuous as Pasmore's, has probably been more reasoned, coherent and disciplined. The fact that none saw Biederman's work until comparatively recently is important, for it distinguishes the dialectical nature of their contacts from the formal, and clarifies those areas which separate them from those which overlap.

For all these artists, *Art as the Evolution of Visual Knowledge*, which was their first contact with Biederman, was the most substantial document of its kind ever to have appeared. It offered clarification, confirmation, and argument in depth in an area of creation that related to ideas of overlapping preoccupation in England at a time when the state of art was undergoing a profound and far-reaching critical re-examination, in terms of its form and its function, its technology, its future, and its historical antecedents. Many artists have claimed Courbet and Cézanne, Monet and Mondrian, as prime sources of their creative sensibility, and none more than in the early postwar period. But Biederman in so doing offered at that time a coherent, uncompromising and committed proposition for a radical alternative to painting and sculpture which received an affirmative response from this small group of English artists, and was sustained with varying degrees of intensity through later contacts. The effect of these contacts should not be underrated; nor should they be exaggerated or distorted, for this would do a disservice to both Biederman and those who have been in communication with him. There are clearly many aspects of parallel concern, but equally there are areas of fundamental disagreement (regarding, for example, colour, mathematics, historical antecedents, and connections with the organic world) and the present exhibition provides the first opportunity we have had to focus on those aspects of *dissimilarity* between Biederman and other practitioners of what Anthony Hill has called the 'constructive syndrome',[7] at the level of the work itself.

[1] From his introduction to the catalogue of *Relief/Construction/Relief*, Museum of Contemporary Art, Chicago, 1968.

[2] For example: John Ernest, Adrian Heath, Anthony Hill, Kenneth Martin, Mary Martin, Victor Pasmore, Peter Stroud, Gillian Wise, and others.

[3] The catalogue of *Dimensions: British Abstract Art, 1948–1957* (an exhibition organized by Lawrence Alloway at the O'Hana Gallery, London, in 1957) contains no less than six references to Biederman, including the following: '1952. Hill corresponds with Biederman.', '1953. Pasmore corresponds with Biederman.' and '1954. K. Martin corresponds with Biederman.'

[4] At the Stedelijk Museum, Amsterdam, in *Experiment in Constructie*, where Biederman exhibited ten reliefs, along with works by Baljeu, Cairoli, Ernest, Gorin, Hill, Mary Martin and van Woerkom. Mary Martin, John Ernest and Anthony Hill visited the exhibition and for the first time saw actual examples of Biederman's work. Prior to this exhibition, the only intimation of what Biederman's coloured reliefs were really like was provided by colour illustrations in the magazine *The Structurist*, 1, Saskatoon, 1960–61, and 2, 1961–62, which were seen here.

[5] In the Marlborough New London exhibition.

[6] From Ceri Richards.

[7] 'Construction: the European phenomenon', *Studio International*, vol. 171, no. 876, pp. 140–7, London, 1966.

One clear ramification in this respect lies in the function of colour, and those who have not seen Biederman's reliefs before are often surprised at the intensity of the colour and its optical complexity. This complexity depends upon certain conditions of viewing for its full realization, one of which is the presence of natural light, which we are unfortunately denied at the Hayward Gallery. For Biederman, colour and light[1] are as essential ingredients of each work as the substance and form of the structure itself. Natural light is never constant or stable, and with its changing intensity, variations of quality and temperature, and shifting emphasis of shadow and reflection across the surface, yields a continuously transient and mobile relationship of parts. There is an aspect of paradox in a Structurist relief: the object itself, with its orderly interior structure, its sense of presence and corporeality, the visible facts of its parts and the dimensional character of its construction, presupposes a kind of constancy and uniformity of perception. But the opposite is true, for the final experience is one which impinges on human perceptions in a way that is continuously diverse. For Biederman, natural light is an agent of singular significance in the process of projection from the object out into the natural world; its action completes the work and, for the spectator, effects the transition from a sense of the actual to a heightened and sublime sense of reality.

What is finally made clear by this exhibition is that Biederman's work cannot be contained within the boundaries of any narrow orthodoxy, but relates to a much wider context than had previously been supposed. It illustrates as well the gap which, to my mind, separates Biederman's practice as an artist from his exhortations as a pioneer theorist. Whilst realizing that Biederman's writing represents a substantial contribution to the dialectics of modern art, I personally find his arguments sometimes veiled in a mixture of mysticism and contumacy with which it is difficult to connect. There is an underlying presence in his writing of tenseness, perturbation, and frustration, which can colour and distort the inner meaning of his argument, and leave his readers alienated. In his work, however, I find no such features present. His reliefs contain an extraordinary degree of rigour, discipline and control. A sense of order, a command of means, and uncluttered clarity of purpose. A Structurist relief by Biederman achieves a precisely poised unity between idea and means, whose conjunction transcends both, freeing the work from any idiomatic constraints. Whilst a Structurist relief depends for its inception on the whole ethos of Structurism, it is released in its final form from any theoretical determination, leaving the firm conviction of a new and autonomous reality. There is no doubt in my mind that Charles Biederman has made a unique contribution to modern art. Until now, attention has been directed mainly to his writings. I am glad to have this opportunity to put the record straight, and draw attention to the achievements of one of the more neglected, most remarkable, and sustainedly radical artists of our time.

Robyn Denny

[1] 'For the first time in history the full effect of colour is open to the artist. Colour is no longer colour, as in painting, nor severely limited, as in sculpture, *colour in art has become light!* Colour, as in nature's light, is now the colour of art.' Charles Biederman. *The New Cézanne*, p. 81, Red Wing, 1958.

Biederman and the Structurist Direction in Art

In June 1936, when Christian Zervos saw Charles Biederman's work at the Galerie Pierre in Paris, he wrote: 'Biederman's work is full of possibilities. One has the feeling of being in the presence of a gifted and very conscientious man, whose natural gifts have not yet found their own expression. One senses untold difficulties, not always overcome, encountered in seeking perfection. One feels in him a desire to strike out toward a great destiny. Will he have the courage to start on his way soon?'[1] This assessment was prophetic, for the very next year Biederman was on his way.

Two sources were paramount in determining Biederman's sense of direction: the innovations of European artists and his own changing perception of nature. The artist recalls the first time he regarded nature as nature, and not as the subject of a painting. This occurred in the spring of 1936 while visiting friends in the country. Biederman believes a new perception was possible because of his preceding experience as an *abstract* artist – abstract in the sense of being emancipated from a restrictive representational view of art. This fresh perception opened the way to a deeper understanding of nature beginning in late 1937. Not until his move to Chicago in 1941, however, was he able to experience a closeness to nature which allowed him to observe processes and glean insights pertinent to his evolutionary theory and structural interpretation of art. In this spirit, he chose an apartment overlooking greenery and the lake; a year later he moved to the rural community of Red Wing, Minnesota. There, for the first time, he was able to concentrate fully on nature as the source of his artistic inspiration. In 1938 Biederman coined the term *Constructionism* to designate an art form which developed from painting, but shares its three-dimensional properties with sculpture. Constructionism, relief art organized geometrically, owed its name, doctrine and most orthodox accomplishment to Biederman. The Frenchman Jean Gorin, influenced by Mondrian in the 1930s, developed a closely parallel concept of relief construction. Biederman was unaware of Gorin's work and first contacted him in 1947. Gorin followed Mondrian and his Neo-plasticism, whereas Biederman adhered to Cézanne and his proto-Cubist interpretation of nature. Since 1948 artists in America and abroad, to whom Biederman was programmatic, have adopted the Constructionist label to identify their own objectives. However, as early as 1952 Biederman became aware of the indiscriminate use of the term by relief artists who had diverged from the Constructionist proposition. By introducing a new term, *Structurism*, and applying it to past and present reliefs, he hoped to eliminate semantic confusion. Structurism more accurately denotes the involvement of the artist with what Biederman calls the 'structural process level of reality' as a source and model for creation. The term *Structurist*, therefore, fully replaces and excludes *Constructionist*, even in discussing Biederman's pre-1952 reliefs and ideas. While his English colleagues employ *Constructionist* and *Constructivist*, Biederman has gained acceptance for the term *Structurist* among reliefmakers in the United States and Canada.

Historical antecedents

Structurism, as a theory[2] and method of creation, is unique in recent art history. Developed by Charles

[1] Christian Zervos. 'Cinq peintres américains', *Cahiers d'Art*, 8–10, p. 278, Paris, 1936.

[2] Charles Biederman is the author of three books, *Art as the Evolution of Visual Knowledge* (Red Wing, 1948), *Letters on the New Art* (Red Wing, 1951) and *The New Cézanne: from Monet to Mondriaan* (Red Wing, 1958); he has also written a host of articles explaining his Structurist theory: 'Art and Science as Creation', *Structure*, I, pp. 2–18, Amsterdam, 1958; 'Nature and Art', *Structure*, II, 1, pp. 13–21, Amsterdam, 1959; 'Art and Motion', *Structure*, II, 2, pp. 51–7, Amsterdam, 1960; 'Symmetry: Nature and the Plane', *Structure*, III, 1, pp. 17–28, Amsterdam, 1960; 'The Real and the Mystic in Art and Science', *The Structurist*, 1, pp. 14–31, Saskatoon, 1960–61; 'Instinct – Intuition and Emotion – Intellect in Art', *The Structurist*, 1, pp. 42–51, Saskatoon, 1960–61; 'Dialogue on Art as Imitation or Creation', *The Structurist*, 2, pp. 40–6, Saskatoon, 1961–62; 'A Non-Aristotelian Creative Reality', *Structure*, IV, 2, pp. 38–43, Amsterdam, 1962; Leif Sjöberg. 'Interview with Charles Biederman', *The Structurist*, 3, pp. 62–71, Saskatoon, 1963; Leif

Biederman, in the light of a new understanding of nature, it stems from the basic premises of four pioneer art directions, which he has tried to apply and expand upon in his own work: Monet's paint-pigment transformation of nature's light-colour structure; Cézanne's proto-Cubist analysis of nature in terms of planar organization; Mondrian's conversion of planes into abstract composition; Gabo and Pevsner's incorporation, in their work, of scientific attitudes and modern technology's methods and materials.

Monet

Biederman's interest in Monet is largely an identification of purpose: Monet signified the end of mimeticism in the history of Western painting; his freeing paint-pigment from its transcriptive subserviency to natural light and colour heralded the beginning of non-representational art. Biederman believes that Monet was trying to record the same brilliance of colour and intensity of light he observed in nature. Realizing, however, that copying nature with paint was futile, Monet studied the structure of the colour phenomenon and set up a parallel to nature by emulating its methods rather than imitating its results. His use of full paint-pigment brilliance matches, but does not equal, nature's light and colour brilliance. Despite his claims, he was less interested in recording the variations of light and colour throughout the day than in using these successive light conditions as stimuli for achieving colour results peculiar to paint-pigment. The prevalent naturalism and attraction of so many to the element of fantasy in Impressionist painting – erroneously justified on the basis of being realistic – prevented contemporary observation of the disappearing importance of subject matter. Painting was becoming a new creative experience in colour, and thus largely its own justification.

In addition to stripping colour of its even, atmospheric appearance and setting up structural analogies between light-colour and paint-pigment, Monet also touched upon the time element in painting. To describe the objective in his series of haystacks, he used the term 'instantaneity' for his attempt to obtain a true impression of a certain aspect of nature rather than rendering the varying aspects in a composite picture. For this purpose, he recorded a succession of aspects on a series of canvases, working on these in turn and dedicating each canvas to one specific effect.[1] Yet, just as a series of stills does not constitute a moving picture, so fifteen haystacks, painted at different times of day under different light conditions, do not constitute a genuine time sequence, or show light and colour in process. Biederman, instead, offers an intriguing alternative to Monet's repetition of haystacks, poplars and cathedrals. By presenting a concrete reality (a relief) where representation (a landscape) is no longer necessary, and by including the ever-changing reality of light as an active ingredient in each work rather than rendering it as a finite visual phenomenon, Biederman creates vehicles for an infinite number of light and colour combinations. Whereas Monet sought the variable colour experiences embodied in a single form or subject through the representation of its changes on a number of canvases, Biederman wishes to create, in one work, forms which respond, as in nature, to the ceaseless variables of light. Thus, while Monet lends permanence to ephemeral vision, Biederman makes light his partner in creation and demonstrates sequentially, with full stress on change and the viewer's motion, the impermanence of visual sensation. Monet has been quoted as wanting to 'see the world through the eyes of a man born blind who has suddenly gained his sight: as a pattern of nameless colour patches'.[2] A structurist relief literally embodies the qualities Monet solicited.

Cézanne

Cézanne continued Monet's study of nature as subject matter for art. If Monet saw nature largely in terms of colour-structure, Cézanne amplified this concern for colour-structure with an investigation of pictorial space.

Sjöberg. 'Interview with Charles Biederman, Part II', *The Structurist*, 4, pp. 48–57, Saskatoon, 1964; 'The Sphere and the Cube', *Structure*, VI, 1, pp. 9–13, Amsterdam, 1964; 'The Visual Revolution of Structurist Art', *Artforum*, III, 7, pp. 34–8, San Francisco, 1965; 'Art in Crisis', *Studies in the Twentieth Century*, 1, pp. 39–59, Troy, N.Y., 1968; 'Dialogue II: Creative or Conditioned Vision', *Data: Directions in Art, Theory and Aesthetics*, pp. 76–94, London, 1968.

[1] John Rewald. *History of Impressionism*, pp. 561–2, New York, 1961.

[2] Lilla Cabot Perry. 'Reminiscences of Claude Monet from 1889 to 1909', *The American Magazine of Art*, XVIII, 3, p. 120, New York, 1927.

Once Cézanne felt he understood the Impressionists, particularly Pissarro and Monet, he decided that it was necessary to go beyond them. 'I don't hide it, I have been an Impressionist,' he would say and go on with the much-quoted statement: 'I want to make of it something that is as solid and durable as the art in museums. For in the fleeting quality of everything, in these paintings of Monet, it is necessary now to put a solidity, a framework.'[1] What Cézanne meant by 'fleeting quality', Biederman reminds us, is what Monet termed 'fugitive effects of nature'.[2]

Cézanne wished to join a virginal vision like Monet's – whom he most admired of his contemporaries – with his own power of analysis. Biederman deduces, from paintings and appropriate quotations, that Cézanne was interested not only in nature in terms of the cube, the cylinder and the sphere, but more specifically in terms of the planes, i.e. the planes of these same sculptural objects.[3] Cézanne transformed them into a series of surfaces seen as planes, not curves. Therefore, applied to the rendering of nature, this simplification of structure became a matter of treating all form according to the plane relations of certain geometric figures. This planar method makes the transferral of nature to art more amenable to the needs of painting, a two-dimensional medium. Even blank space, which ordinarily escapes geometric definition, becomes as palpable as tangible objects in the reduction to planes. The conception of space as emptiness is changed to one of fullness, by the use of planes.

Cézanne's colour and brushstroke reinforce geometric organization equally. He freed colour from the specific object to orient it toward planar structure. The brushstroke, like colour, betrays an independence from representational concerns. Cézanne had learned this new use of colour from Monet and used it to further his structural interest. His late paintings are built on strokes of colour totally unlike any practised before. The great advantage of freeing the brushstroke from its ancillary role of conveying likeness is that it reinforces geometric organization by virtue of its energetic, angular appearance. The predominantly vertical strokes comprise a set of repetitive building units.

The more Cézanne used colour and brushstroke as elements of planar organization, the less he was interested in the traditional use of perspective and rendering of texture. A uniform texture prevails in the late works. As for perspective, planes no longer diminish as they recede into space nor is their size strictly determined by the object's distance from the viewer. The qualitative range of planes is reduced, creating a greater similarity among them. Thus separate planes secure a structural affinity with the plane of the picture. Cézanne accomplished a gradual evolution, translating nature's three-dimensional structure into the planes of a two-dimensional painting. This system will later be called *Cubism*. The Cubists, in Biederman's assessment, did not understand Cézanne's dictum that 'painting is not sculpture', for they accepted his planar vision but subjected his geometric figures to sculptural interpretations. Biederman judges the Cubists in terms of their failure to implement Cézanne's proto-Cubist lesson.[4] He may well be right in claiming that the Cubists were unaware of the character of Cézanne's research into nature and his reliance on geometry as a formative tool. Biederman feels the Cubists had only a superficial understanding of Cézanne's structural methods and devices, and used them merely as a means of continuing the old vision, i.e. a formalized rendering of nature's appearance.[5]

Mondrian

Claiming that the Cubists misunderstood Cézanne, Biederman sees Mondrian as the true heir of Cézanne's spirit. Cézanne's impact on Mondrian's painting concurs with the Frenchman's 1911 introduction to Holland at the Stedelijk Museum in Amsterdam.[6] Already in Mondrian's 1911 'tree paintings' there is an orientation to the picture plane reminiscent of Cézanne's parallel planes. The similarity was apparent in the rhythmic scaffolding of the trees' branches and the conversion of natural appearances into geometric notations. By 1914 the nervous swirl has disappeared, while heavily accented horizontal and vertical planes were retained. The planes, quite obviously, had become a device to give his paintings structure.

[1] Joachim Gasquet. *Paul Cézanne*, p. 90, Paris, 1921.
[2] Charles Biederman. *The New Cézanne*, p. 10.
[3] *Ibid.*, p. 16.
[4] *Ibid.*, p. 40.
[5] *Ibid.*, p. 41.
[6] Michel Seuphor. *Piet Mondrian. Life and Work*, p. 82; New York, n.d.

To resolve some of the problems in his painting, Mondrian returned to nature between 1914 and 1917. Biederman feels it was then that he 'discovered space as a palpable element of vision (as Cézanne had before him)'.[1] Cut off from Paris by the war while on a family visit to Holland, Mondrian's return to nature, at the seaside resort of Domburg, was only partially the result of an artistic predicament. His renewed interest in nature is recorded in a 1914–15 notebook reflection: 'Looking at the sea, sky and stars, I represented them through a multiplicity of crosses. I was impressed by the greatness of nature, and I tried to express expansion, repose, unity. . . . But I felt that I still worked as an Impressionist, and expressed a particular feeling, not reality *as it is*.'[2]

In 1917 Mondrian completed his discovery of space: he painted freely suspended rectangular planes. Biederman, who in earlier analyses tended to overemphasize the Cézanne-Mondrian relationship, stresses this stage in Mondrian's development, and in 1958 hailed Mondrian for freeing Cézanne's planes from the objects of nature 'to which they had still been tied in a mimetic way'.[3] He claimed that Cézanne's planar concept had reached its logical conclusion with Mondrian's 1917 works.

It is interesting to note that there is an implicit similarity between Mondrian's 1917 paintings[4] and Biederman's early Structurist reliefs. But a comparison between Mondrian's 1917 paintings and those of the 1918–21 period reveals a freedom of composition rooted in nature, which was subsequently forced into the rigidity of a neo-idealistic formula, a strait jacket of mental discipline. Biederman blames Mondrian's Neo-plasticist theorizing for smothering an incipient awareness of the structural correspondence between his art and the creations of nature.

In the 1920 essay, *Le Néo-plasticisme*,[5] a different Mondrian emerged, calling for a 'denaturalization' of art. Nature was banished from his work and replaced by a 'supreme reality'. The author now sought something called the 'spiritual', thus embracing a mystic view of reality. If Cézanne had achieved the perfect co-ordination of perception and intellect, Mondrian stressed the latter over the former, since he thought nature as perceived did not allow for rigorous, formal and colouristic organization according to preconceived principles. To enjoy an elemental colour sensation nature could not offer him, Mondrian reduced his palette to red, yellow and blue, the subtractive primaries. His Neo-plasticist theory presupposed a denial of sensory nature. 'It took me a long time,' he wrote, 'to discover that particularities of form and natural colour evoke subjective states of feeling which obscure pure reality. The appearance of natural forms changes, but reality remains. To create pure reality plastically, it is necessary to reduce natural forms to constant elements of form and natural colour to primary colour. . . .'[6]

Mondrian's paintings became paradigms of the harmony he wished for the human environment. He wanted the relationships, not the elements, to speak. Mondrian discounted the issue of nature by embracing the neo-platonic viewpoint, that the spirit is infinitely superior to nature because divinity manifests itself in it more than in nature. Biederman disagrees with Mondrian's repudiation of nature and claims that this has seriously curtailed the development of 'the new art', of which we thus far had merely caught a glimpse.

With his propensity for dichotomy and dualism, Mondrian would have asymmetry without symmetry, the dynamic without the static. In denying the reality of the natural, in neutralizing and equilibrating oppositions, he reached for the impossible.[7] Here the Dutch idealist faces the American pragmatist, and Biederman's arguments are not easily discounted. One notes that Biederman does not reject Mondrian's intellectual discipline or formal dialectics – in fact, he admires them – as long as they do not rule out nature as a source for art. But he does take issue with Mondrian's post-1917 departure from the realities of nature. What really divides the two artists is the source of their abstractions and the extension each gives to Cézanne's concept of planar organization. With candid subjectivity and as an *oratio pro domo*, Biederman makes it clear that only one solution remained for Mondrian

[1] Charles Biederman. *The New Cézanne*, p. 43.
[2] Michel Seuphor. *Piet Mondrian. Life and Work*, p. 120.
[3] Charles Biederman. *The New Cézanne*, p. 42.
[4] Michel Seuphor. *Piet Mondrian. Life and Work*, pp. 381–2 (Classified catalogue, nos. 285–91).
[5] Published by Léonce Rosenberg in *L'Effort Moderne*, Paris, 1920.
[6] H. L. C. Jaffé. *De Stijl/1917–1931*, p. 43, Amsterdam, 1956.
[7] Charles Biederman. *The New Cézanne*, p. 50.

after he had attained the spatial planes of 1917: to turn to actual dimensions which would then give art a structural correspondence with the realities of nature.[1]

Recently Biederman has gone further in his analysis and rejection of Mondrian. 'It is . . . Cézanne's planes that . . . served Mondrian as the departure for the direct creation of man's art.' His vision of Cézanne's planes, however, came to him filtered through the eyes of the Cubists, whose misunderstanding and misuse of Cézanne's achievements brought about a false structural interpretation of the plane's functional significance. This confusion was then compounded when the Dutchman plunged the art of the plane into the morass of mysticism and idealism, obscuring from the view of others the plane's origination in Cézanne's structural perception of nature. [Mondrian] was later to speak condescendingly of [Cézanne].[2]

Pevsner and Gabo

Mondrian, for all his innovation, was one of the last great practitioners of what Biederman calls the 'primitive medium of painting'.[3] The Russian Constructivists, Pevsner and Gabo, took the next step by applying the scientist's attitudes and modern technology's methods and materials to art. Constructivism was the first coherent attempt to create an abstract art of three rather than two dimensions. Biederman suggested in 1958 that the Constructivists offered a three-dimensional solution to Cubism.[4] One must realize that when Biederman talks of the Constructivists, he is referring specifically to Pevsner and Gabo, whose early works coincide with the Cubism of Picasso and Braque.

The 1920 Realist Manifesto, published by Pevsner and Gabo, gave Constructivism the theoretical foundation that was important to Biederman in his years of search and development. According to this document, space and time are the only factors through which life manifests itself. Art, a unique way of coming to grips with life, is based on the same principles. Viewing art in a kinetic way, the Constructivists undertook to destroy mass and replace it with concave or transparent form; they retained linear elements for rhythmic purposes only and chose materials most typical of our industrial environment. Tatlin and Lissitzsky, considered by some scholars[5] to be the true pioneers of the Constructivist movement, did not influence Biederman's work or writings.

In Constructivism, the opposition between closed space (the material) and open space (the volume) produces a situation with space dynamically synthesized in plastic construction.[6] This reaches farther than Biederman has gone in his work. Not only does the relief's limited three-dimensionality scarcely permit this interplay of material and volume, but Biederman, in his orderly, evolutionary manner, refuses to 'jump the gun' in exploiting the kinetic possibilities implied by Gabo and Pevsner. Also, if the essence of Constructivism is *construction*, with certain principles such as weight, stress, balance, thrust, rigidity and stability entering into play – the creation of volume without the suggestion of mass – then Biederman's reliefs lack any of these Constructivist considerations. The Constructivists' interpretation of reality, with its emphasis on the time-space factor, was as uncongenial to Biederman as was Mondrian's elimination of nature. Even though the Constructivists might admit that new non-mimetic forms cannot be secured by turning away from nature, proposing to 'penetrate nature even more profoundly than naturalistic art',[7] they make a poor case for these theories in their sculpture. As shown in the works of Gabo and Pevsner, man and the machine were their true sources of inspiration. This then accounts for two of Biederman's principal objections to Constructivism: its practitioners were indifferent to the structural process level of reality, and they denied themselves the structural potential of colour.

Biederman's debt to Constructivism is mainly in its rejection of mass and its belief in the kinetic potential of form. As for a superficial parallel in the use of tools and materials, these are not relevant to Biederman's work beyond their serving as a means to an artistic

[1] Charles Biederman. 'Art and Motion', *Structure*, II, 2, p. 54.
[2] Charles Biederman. 'Art in Crisis', *Studies in the Twentieth Century*, 1, p. 44.
[3] Charles Biederman. *Art as the Evolution of Visual Knowledge*, p. 366.
[4] Charles Biederman. *The New Cézanne*, p. 46.
[5] Camilla Gray, *The Great Experiment: Russian Art 1863–1922*, pp. 249–50, London and New York, 1962.
[6] Joost Baljeu. 'The Problem of Reality with Suprematism, Constructivism, Proun, Neo-plasticism and Elementarism', *The Lugano Review*, I, 1, pp. 111–12, Lugano, 1965.
[7] *Gabo-Pevsner*, The Museum of Modern Art, p. 20, New York, 1948.

end. Industrial materials and a technological imagery were important to Biederman only for a brief period from 1940–41. The Pevsner brothers' pioneering methods and materials from an extra-aesthetic environment extended Biederman's vocabulary at a time when his ideas were primarily directed toward overcoming the Mondrian deadlock. Biederman borrowed from one movement, Constructivism, to assure the viability of another, Neo-plasticism. But he accepted neither De Stijl nor Constructivism as a final solution. He did not identify with Constructivism's momentous objectives, he could not divorce himself from nature, and he did not wish to sacrifice colour.

The influence of Constructivism on Biederman's work ended after 1946 and that of De Stijl after 1947. More recently, the artist's changing views have led to greater, more important differences with the Constructivists. Biederman has come to feel that Pevsner and Gabo were correctly insistent on being called sculptors, since implicitly the 'ancient form perception of sculpture retains its structural limitations upon [their] work'.[1] He has found that Constructivist views, exemplified in discussions of space, are confused by structural contradictions, and quotes what he considers Cézanne's anticipation of their error: 'They paint in caves where there are no planes.'[2]

Structurism and the Structurist relief

Non-representational art, according to Biederman, abstracts in many ways and with varied success from the visible aspects of the world surrounding us. Cézanne first made us aware of the structural processes underlying nature which defied traditional representation. Following Cézanne as pre-eminent authority, Biederman is motivated by structural processes he observes in nature, especially outdoors. He studies nature's 'building methods' as they present themselves in a dynamic interaction of form, space and light, and abstracts these insights into a non-mimetic art of pure, geometric form. By proposing the 'structural process level' of reality as the source of art, Biederman offers an alternative to two types of art which he opposes equally: representational art, with its references to mimetic, visible reality, and non-geometric abstract art, as it favours emotion over reason. In short, Structurism evolves from an analysis of the structural process that underlies all form in nature to a discovery of the methods by which nature operates. From nature's complex building methods the Structurist artist distills parallel methods which he utilizes to create his own abstract art.

The Structurist relief includes the properties of painting, sculpture and architecture, yet emerges as an art form in its own right. A Structurist relief, in Biederman's mature yet constantly developing style, consists of a flat rectangular plane with an ingeniously organized array of smaller planes attached to both the background and to one another. Within the limitations of their geometric shape and parallel or perpendicular positions, these planes create a unique arrangement of volume and space.[3]

Since 1950 Biederman has constructed his work entirely of aluminium. The foreground elements extend from parallel and perpendicular planes, as well as from the supporting plane. High-key colours are used in complex mixtures. In his early work, colour is limited to the De Stijl primaries and black and white; in 1947 complementaries are introduced. The majority have only four or five hues, while a few of the later works have as many as ten. Pairing of colours, in what appears to be a contrapuntal arrangement, results from an effort to develop the colour as an indivisible element of the total structure. One suspects, but is unable to claim for certain, basic analogies with music. The background colour dominates the relief because of its sheer expanse and radiance. Viewed head-on, the Structurist relief acts as a complex of light-catching lines in space, hovering before a field of saturated colour. From an off-centre position, ever-changing as the observer alters his viewing angle, the multifaceted foreground structure reveals its rich composition. Instead of an optical illusion, Biederman offers the optical complexity of actual forms in space, creating variations within balance, ambiguity within precision and change within immobile relationships.

Biederman's reliefs require light, preferably the changing light of day, as an essential, if variable,

[1] Charles Biederman. 'Art in Crisis', *Studies in the Twentieth Century*, 1, p. 52.
[2] *Ibid.*, p 53.

[3] In 1960 Biederman started to slant parallel and perpendicular planes; an illusion of triangles is created by diminishing the size of rectangular planes placed in parallel formations.

formal ingredient. The importance of light as an animating force in Biederman's compositions can hardly be overemphasized. If we consider the infinite number of angles of vision possible within a hemisphere of perception, and consider also the equally large number of angles of direct light radiation, it becomes evident that there is no limit to the dynamics of a Structurist composition. Shadow and reflection are integral elements of Biederman's reliefs. Shadows lend extra depth and complexity to the formal structure, dramatize composition and vary the luminosity of colour. Reflection of other colours effects subtle changes in hue and intensity of the colours in adjoining areas. The fugitive mirror effects in these reliefs imbue them with fluidity. In Biederman's view, it is not he, but the light which completes his works.

Structurism as an art form depends on symmetry to the extent that nature itself is organized according to that principle. Since absolute symmetry does not exist in nature, the term here denotes that segment of the 'spectrum of asymmetry' which approaches the condition commonly recognized as symmetry. Asymmetry or 'almost symmetry' is true of all natural phenomena. Science teaches that this modified symmetry is more basic to living organisms and mineral formations than is generally acknowledged. Mondrian held that symmetry was directly opposed to, rather than an aspect of, asymmetry, and wanted to abolish symmetry and symmetrical repetitions in his paintings. In his reliefs, Biederman manages to avoid symmetry or its appearance. As an art form the relief creates more opportunities for symmetry than painting and also offers more structural ways of disguising it. Biederman considers the relative character of symmetry an important key to understanding nature (and art) as a structural process and applies this knowledge to his compositional methods.

In this context it seems pertinent to mention Biederman's rejection of mathematical rules or formulas. His oft-stated conviction is that the introduction of a doctrine or system at this stage would lead Structurism to a dead-end of absolutes, thus stifling its chances for creative development. The idea of development, from the simple to the complex, is axiomatic in Biederman's Structurist philosophy. An essential condition, however, which closely parallels natural growth, is that all elements involved progress simultaneously. Thus form, colour, space and light, as the basics of the Structurist relief, are inseparable from one another, and must develop at the same time and pace. To disregard this factor of structural unity, claims Biederman, would jeopardize the Structurist character of the work.

In the Structurist view, colour becoming complex with form remaining simple will yield a result closer to painting than relief. If form is stressed at the expense of colour, the result is closer to sculpture. Too much regularity may convert abstract relief elements into mere modules of three-dimensional organization. The result resembles an architectural scale model with planes acting as building elements in a functional context.

Just as Biederman avoids being trapped within specific contexts of painting, sculpture or architecture, he also shuns perceptual art with its optical phenomena. He does not use complementary colours in eye-teasing juxtaposition, nor does he formally organize his reliefs to generate disquieting perceptual sensations. Biederman regards the Structurist relief as a total creative experience, fully engaging mind and senses. He does not want it to invite response through mechanical or optical devices. By Biederman's standards, the Structurist artist who employs these devices adds useless words to the grammar of Structurist art without changing a syllable of its syntax. But Biederman foresees actual movement and controlled light legitimately incorporated as integral elements in future structurist works.

Structurist philosophy has always argued for an art that will no longer be one of unique, hand-crafted examples. Biederman's contention is that this is an art form which lends itself to reproduction by industry, and that works of art can be mass-produced in the same way as music, literature and photography. He stresses the communal aspect of art production with each Structurist profiting from the advances of his fellow artists working in a similar direction.

In his writings, Biederman foresees a future art which he describes as 'the new art' of Structurist creation. Whether or not one accepts his view, Biederman has impressively proven his ability to invest ideas of a specialized nature with forms of universal appeal.

Jan van der Marck

Biography

1906 Charles Joseph Biederman, born of Czech parents, Cleveland, Ohio, August 23.

1922–26 Apprentice in commercial art studio. Paints without instruction. Develops interest in art through frequent visits to Cleveland Museum of Art.

1926–29 Attends Art Institute of Chicago School. Studies with John Norton, Frederic Poole and Laura Van Pappelendam. Awarded a scholarship, wins the Paul Trebeilcock Prize and has a show in the school's exhibition hall.

1929–32 Lives in Chicago. Paints in a Cézannesque manner and, as early as 1930, in a Cubist manner. Sells his first paintings.

1932 Leaves for Europe hoping to live and work in Czechoslovakia. Disappointed in his expectations, returns to Chicago the same year.

1934 Executes his first wholly abstract works and, from collages, evolves interest in reliefs. Moves to New York in September.

1934–36 Lives in New York, and for the first time sees original works by all of the Cubists. Shows more interest in Cubist technique than in the results achieved, and is more attracted to the work of Gris and Léger than to that of Braque and Picasso. Interest in Piet Mondrian begins when he sees the Dutchman's Neo-plasticist paintings for the first time. Meets Charles Ratton, Parisian dealer and connoisseur of African art, who visits Biederman's studio and returns with James Johnson Sweeney and Pierre Matisse. The latter offers Biederman a show at his gallery. Albert Gallatin and Alfred H. Barr Jr. come to his studio and so do[es] Fernand Léger, on his second trip to the United States.

1935 Begins series of reliefs, using geometric designs in primary colours or black line patterns on natural wood grain panels with nails, tacks, and string attached. By the end of this year and into 1936, builds reliefs which seem to be three-dimensional equivalents of Mondrian's rectangularly organized paintings. At the same time, paints many large, tightly composed canvases in which brightly coloured, sharply delineated shapes hang suspended against contrasting monochrome backgrounds. Their initial geometric rigidity gradually dissolves into biomorphic fluidity which, with its cone, horn and balloon shapes, offers a striking parallel to Miró.

1936 One-man exhibition of oils, gouaches, collages and reliefs, Pierre Matisse Gallery, New York, March 2–21. Participates in 'The Art of Today', Albright Art Gallery, Buffalo, N.Y., January 3–31; 'Five Contemporary American Concretionists: Biederman, Calder, Ferren, Morris, Shaw', presented by Gallatin's Gallery of Living Art at Paul Reinhardt Galleries, New York, March 9–31; 'Cinq Peintres Américains: Biederman, Ferren, Gallatin, Morris, Shaw', Galerie Pierre, Paris, June 15–29, and Mayor Gallery, London, in July.

Declines invitation of American Abstract Artists to join their group, because it is organized on a national rather than an international basis.

At The Museum of Modern Art sees 'Cubism and Abstract Art'. Is so taken with this impressive exhibition that he regards Europe as the only place sympathetic to innovation. Leaves for Paris in October. Visits museums and galleries. J. J. Sweeney takes

him to see Mondrian. Calls on Léger, Arp, Brancusi, Miró and Vantongerloo, among others. Considers Léger the only painter whose work is congenial to his own. However, after a short time, develops negative reactions to Paris, with its strong traditions and sense of the past. Regrets he has come too late, and feels Paris, as a centre for the creation of art, is 'washed-up'.

1937 Geometry becomes the dominating structural agent in his work and organic shapes gradually disappear. A spatial quality develops that is the result of both a heightened sense of form and a conscious control of colour. As Biederman's painting progresses into spatial projections of abstract sculptural elements, moulding his wedge, ribbon and T-bar shaped mock machine parts into tectonic compositions of elegant clarity, Léger accuses him of disdain for the human figure and forms that can be found in nature. Christian Zervos, editor of *Cahiers d'Art*, prophetically observes that Biederman is concerned with sculpture rather than painting. Significant for more than pure painterly reasons is Biederman's *Hommage à Cézanne*, where he clusters cone, cylinder and sphere. During the last months in Paris, Biederman has a clear presentiment of his future. At the World's Fair, technological displays, not art, hold his attention. Concentrates on two movements: Constructivism and De Stijl. Mondrian's work becomes a major influence on Biederman, and Cesar Domela, latter day member of De Stijl, introduces him to Pevsner. This encounter is particularly significant, as Constructivism will fascinate the artist for years to come.

Before leaving Paris in mid-June, Biederman paints a few canvases in the manner of Mondrian. Not satisfied with their flat appearance 'because they lacked adequate reality', he takes them to New York to be executed as reliefs. Feels that America's non-art environment may be more conducive than Paris to realizing 'the new' in art. Designs models for monumental concrete sculptures closely related to the sculptural forms in his paintings. If, in 1936, the problem was a choice between organic and geometric forms, it is now between sculpture in the round and the more limited relief construction. Biederman believes that 'the old methods of painting and sculpting have reached the end of their usefulness'.

1938 Enters a period of search and adjustment, guided by the ideas of De Stijl; the methods and materials of the Constructivists provide him with some practical solutions. Builds reliefs of distinct geometric design in primary colours.

On extended trip to Chicago, attends seminar by Alfred Korzybski, founder of the General Semantics Institute and author of several books on the semantics of science and language. This experience triggers an ambitious project which would take Biederman ten years to complete: the application of Korzybski's principles to his own view of the history of art as the evolution of visual knowledge.

1939 Biederman's reliefs reflect intensive study of Mondrian's work.

1940 Interest in scientific models and study of Constructivism's methods and materials motivate a number of over-sized reliefs employing glass discs, steel rods and, in one instance, fluorescent light. While admitting a fascination with images from the realm of science and technology, he resists the temptation to precipitate their luminist and kinetic potential.

1941 Exhibits reliefs of 1937–40 period at the Arts Club of Chicago, March 7–29, and at the Katherine Kuh Gallery in November.

Marries Mary Katherine Moore; settles in Chicago. Reliefs of this period influenced by De Stijl in composition and Constructivism in materials.

1942–45 Moves to Red Wing, Minnesota, in October 1942 to work on army medical project. No art produced, with evenings devoted to writing. As postwar reliefs demonstrate, however, Biederman now actively prepares for new direction his work will take.

1945 Resumes work on reliefs, eliminating last traces of Constructivist influence.

1946 Concludes his book *Art as the Evolution of Visual Knowledge.*

1947 Disaffiliates himself from De Stijl principles. As he better understands achievements of Cézanne, begins, in own estimation, making personal contribution to Structurist direction in art.

1948 Publishes *Art as the Evolution of Visual Knowledge* which evokes controversy and praise from fellow artists, scientists and educators. In this work, proposes Monet as the herald of a new art and photography as a legitimate art historical concern. Book also contains first English critique of Mondrian, De Stijl and Constructivism.

1949–50 Produces first mature works in Structurist idiom. Vertical planes predominate.

1951 Publishes *Letters on the New Art,* with excerpts from letters to young artists, primarily Joan Saugrain, written from 1946–51.

Victor Pasmore, challenged by *Art as the Evolution of Visual Knowledge,* together with Kenneth and Mary Martin and Anthony Hill, leads a revival of interest in Constructivism in England. In subsequent years all correspond with Biederman.

1952 Reliefs of this year have classic purity reminiscent of late Cézanne landscapes.

1953 After five years' adherence to limitations of vertical planes, introduces horizontal plane.

1954 Exhibits reliefs, paintings, collages and cube models (the last made in 1951–52 for teaching purposes) at St Paul Gallery and School of Art, St Paul, Minnesota, January 10–February 22.

Builds studio near Red Wing, Minnesota. Embarks on simplification of structural principles with all planes now issuing from single background.

1957–59 Evolves freer, more advanced organization of planes in his work.

1958 Publishes *The New Cézanne,* a challenge to understanding Cézanne's influence on contemporary art in general and Structurist art in particular.

1960 Departs from previous orthogonal organization of reliefs with introduction of oblique planes. Does not eliminate right angle, and regards oblique planes as structural extension of right angle.

1962 Exhibits ten reliefs, along with works by Joost Baljeu, Carlos A. Cairoli, John Ernest, Jean Gorin, Anthony Hill, Mary Martin and Dick van Woerkom, in 'Experiment in Constructie', Stedelijk Museum, Amsterdam, May 18–June 16 (Biederman is co-recipient of the Sikkens Award), and later in 'Experiment in Fläche und Raum', Kunstgewerbemuseum, Zürich.

1963 Exhibits fifteen paintings and ten reliefs at Columbia University School of Architecture, New York, January 14–February 14, and School of Architecture of Georgia Institute of Technology, Atlanta, February 25–March 15.

1964 Participates in exhibition 'Mondrian, De Stijl and Their Impact', organized by Marlborough-Gerson Gallery, New York, April; 'Biennial of Painting and Sculpture', Walker Art Center, Minneapolis, October (Ford Foundation Purchase Award); Pittsburgh International Ex-

hibition, Carnegie Institute, Pittsburgh, October; Annual Exhibition, Whitney Museum of American Art, New York, December.

1965 Retrospective exhibition covering thirty years' work at Walker Art Center, Minneapolis, March 30–May 2, organized by Jan van der Marck. Included in 71st Western Annual Exhibition, Denver Museum, Denver, July.

1966 Receives grant from National Council on the Arts. Included in 'Reliefs, Sculpture', Marlborough New London Gallery, London, September—October; 'Biennial of Painting and Sculpture', Walker Art Center, Minneapolis, September—October (Donors Award); Annual Exhibition, Whitney Museum of American Art, New York, December.

1967 One-man exhibition, Rochester Art Center, Rochester, Minnesota, April—May.

Included in 'From Synchronism Forward: A View of Abstract Art in America', American Federation of Arts, travelling exhibition, November 1967–November 1968.

1968–69 Advisory and Contributing Editor to *Studies in the Twentieth Century*, Russell Sage College, Troy, New York.

Exhibits ten reliefs from 1938–67, along with works by Jean Gorin, Joan Saugrain, Victor Pasmore, Mary Martin, Anthony Hill, John Ernest, Joost Baljeu, William Jordan, Eli Bornstein, Gillian Wise, Elisabeth Willmott, Donald McNamee, David Barr and Ronald Kostyniuk, in 'Relief/Construction/Relief', organized by Museum of Contemporary Art, Chicago, October 26–December 1; circulated to Herron Museum of Art, Indianapolis, December 8–January 1; Cranbrook Academy of Art Galleries, Bloomfield Hills, Michigan, January 14–February 16; The High Museum of Art, Atlanta, March 2–30. Award from Minnesota State Arts Council.

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John Constable 1776–1837
Branch Hill Pond, Hampstead 1819
Oil on canvas 25 x 30 cm / 10 x 12 in
Victoria and Albert Museum, London

Gustave Courbet 1819–77
Eternity
Oil on canvas 65 x 79 cm / 26 x 31 in
City Art Gallery, Bristol

Last 'realists'

The visual evidence of nature was his criterion for reality and so for art.[1]

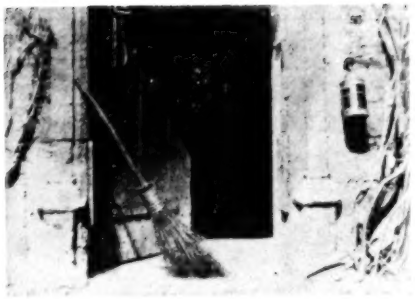
The new attitude was not to make nature more like pictures (idealism), but to make pictures more like nature (science).[2]

[1] Charles Biederman. *Art as the Evolution of Visua Knowledge*, p. 221, Red Wing, 1948

[2] *Ibid.*, p. 222

Joseph-Nicéphore Niépce 1765–1833
View from a window at Gras 1826
Photograph
University of Texas (Gernsheim Collection), Austin

Louis-Jacques-Mandé Daguerre
1787–1851
Artist's studio 1837
Daguerreotype
Société Française de Photographie, Paris



William Henry Fox Talbot 1800–71
Open door
Calotype
Pl. VI in Talbot's *The Pencil of Nature*, London, 1844

First photographers

Produced the first of the more modern kinds of photograph.[1]

What we see, then, is light, not the forms of reality, what we see is an illusion of reality, in the sense that *it is not* reality, but a visual language by which we comprehend actual reality.[2]

It is not an accident that no great realistic artist has appeared since soon after the camera was developed into a practical tool.[3]

The camera marked the first major change in art media since the dawn of art history.[4]

[1] *Ibid.*, p. 222

[2] *Ibid.*, p. 236

[3] *Ibid.*, p. 237
[4] *Ibid.*, p. 243

Joseph Mallord William Turner
1775–1851
Sun setting over the sea *c.* 1840–5
Oil on canvas 91 x 123 cm / 36 x 48 in
Tate Gallery, London

Claude Monet 1840–1926
Haystacks in snow 1891
Oil on canvas 64 x 91 cm / 25 x 36 in
National Gallery of Scotland, Edinburgh

Paul Cézanne 1839–1906
Mont Sainte-Victoire 1904–6
Oil on canvas 71 x 92 cm / 28 x 36 in
Philadelphia Museum of Art (George W. Elkins Collection)[4]

First painters of colour as light

He gave to colour an importance never before accorded it.[1]

Impressionism became the first major effort towards achieving a *man*-art in contrast to the former *nature*-art goal.[2]

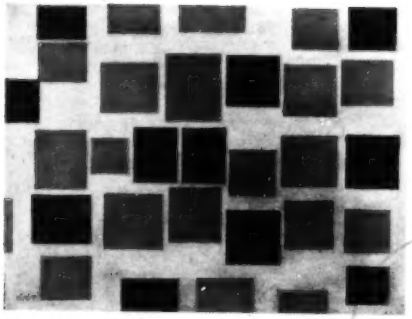
'Submits' to the method, not the appearance, of nature.[3]

If 'Monet gave a vision', Cézanne wished to continue that vision by extending it.[4]

[1] *Ibid.*, p. 264

[2] *Ibid.*, p. 265

[3] Charles Biederman. *The New Cézanne: from Monet to Mondriaan*, p. 18, Red Wing, 1958
[4] *Ibid.*, p. 10



Piet Mondrian 1886–1944
Composition no. 3 with colour planes
1917
Oil on canvas 48 x 61 cm / 19 x 24 in
Gemeentemuseum, The Hague

The great goal of Cézanne *seems* to be before us.[1]

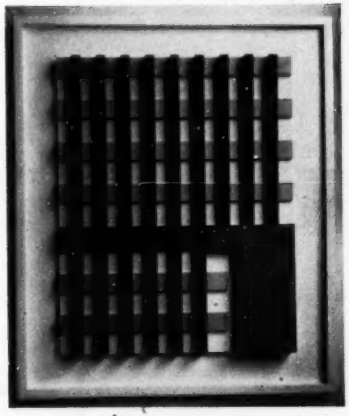
[1] *Ibid.*, p. 42

Structurist works 1936–69

1 **Relief 1936, New York**
Painted wood
116 x 30 x 12 cm / 46 x 12 x 5 in
2 **Relief 1936, New York**
Painted wood
116 x 25 x 10 cm / 46 x 10 x 4 in
Mr and Mrs Bruce B. Dayton, Minneapolis
3 **Structurist work # 2 1937, Paris**
Painted wood
88 x 73 x 8 cm / 35 x 29 x 3 in
4 **Structurist work # 3 1937, Paris**
Painted wood
110 x 90 x 10 cm / 43 x 36 x 4 in
5 **Structurist work # 4 1937, Paris**
Painted wood
91 x 80 x 9 cm / 36 x 32 x 4 in
6 **Structurist work # 5 1937, Paris**
Painted wood
87 x 71 x 10 cm / 34 x 28 x 4 in
7 **Structurist work # 2 1938. New York**
Painted wood
69 x 52 x 9 cm / 27 x 21 x 4 in
8 **Structurist work # 4 1938, New York**
Painted wood
98 x 61 x 14 cm / 39 x 24 x 6 in
9 **Structurist work # 6 1938, New York**
Painted wood
69 x 61 x 13 cm / 27 x 24 x 5 in

1

2



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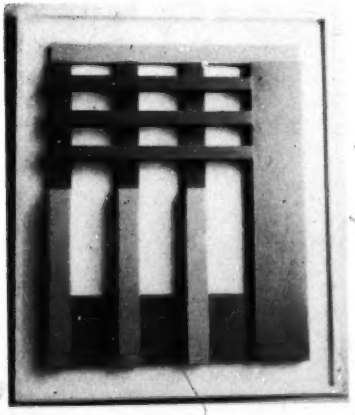

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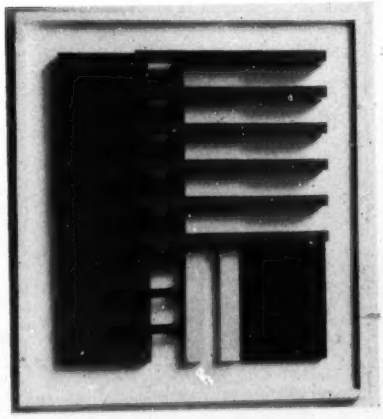

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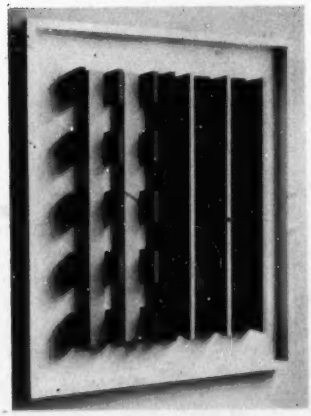

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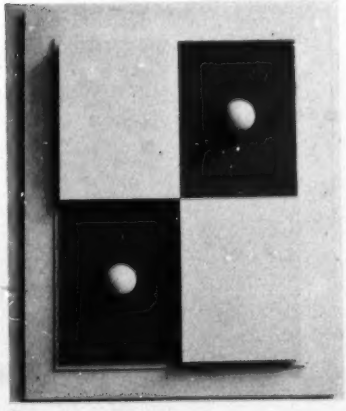

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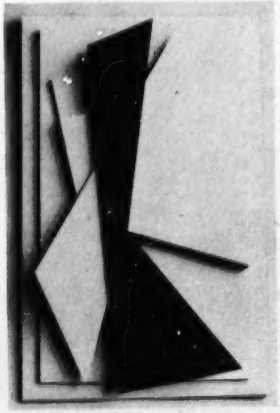

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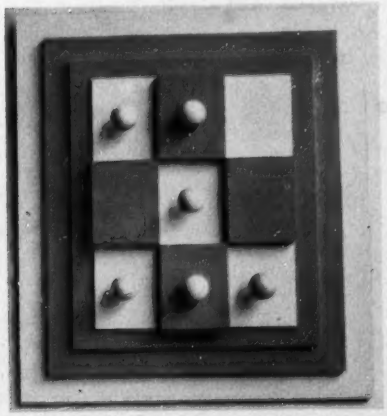

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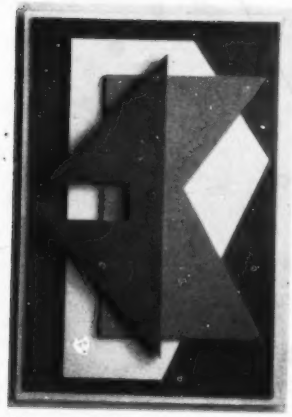

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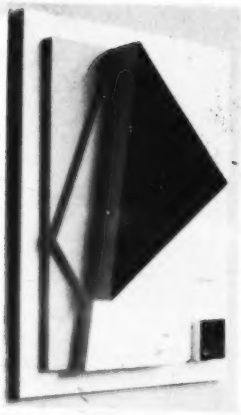

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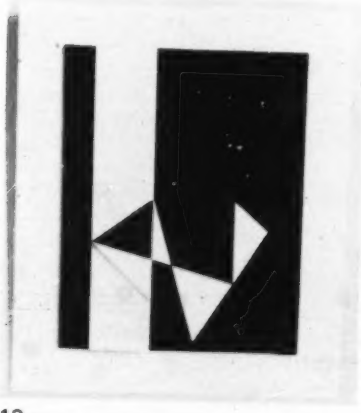

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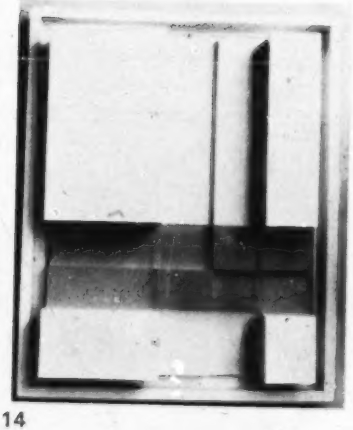

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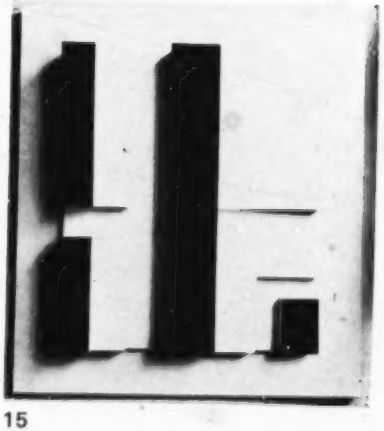


15

10 **Structurist work # 7 1938, New York**
Painted wood
91 x 61 x 6 cm / 36 x 24 x 2 in

11 **Structurist work # 9 1938, New York**
Painted wood and plastic
66 x 50 x 11 cm / 26 x 20 x 4 in

12 **Structurist work # 10 1938, New York**
Plastic
79 x 66 x 3 cm / 31 x 26 x 1 in

13 **Structurist work # 13 1938, New York**
Plastic
79 x 66 x 3 cm / 31 x 26 x 1 in

14 **Structurist work # 14 1938, New York**
Painted wood and plastic
69 x 55 x 11 cm / 27 x 22 x 4 in

15 **Structurist work # 15 1938, New York**
Painted wood
63 x 55 x 10 cm / 25 x 22 x 4 in

16 **Structurist work # 19 1938, New York**
Painted wood and plastic
71 x 56 x 8 cm / 28 x 22 x 3 in

17 **Structurist work # 21 1938, New York**
Painted wood and plastic
73 x 53 x 8 cm / 29 x 21 x 3 in

a **Structurist work # 6 1939, New York**
Painted wood and plastic
101 x 77 x 9 cm / 40 x 30 x 4 in
Private collection
(not exhibited)

18 **Structurist work # 9 1939–40, New York**
Painted wood and glass
91 x 76 x 10 cm / 36 x 30 x 4 in

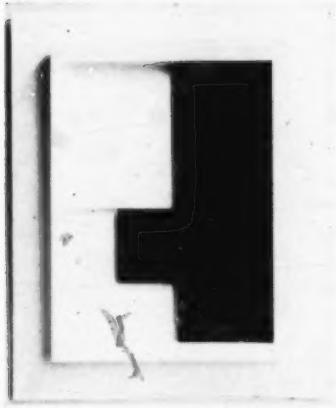
19 **Structurist work # 10 1939–40, New York**
Painted wood and glass
84 x 70 x 8 cm / 33 x 27 x 3 in

20 **Structurist work # 6 1940, New York**
Painted wood and plastic
64 x 64 x 10 cm / 25 x 25 x 4 in
Dr and Mrs Frank G. Chesley, Red Wing, Minnesota

21 **Structurist work # 1 1941, Chicago**
Brass and plastic
55 x 51 x 9 cm / 22 x 20 x 4 in

b **Structurist work # 13 1949, Red Wing**
Painted wood and aluminium
92 x 74 x 24 cm / 36 x 29 x 10 in
Private collection
(not exhibited)

c **Structurist work # 25 1949, Red Wing**
Painted wood and aluminium
86 x 66 x 15 cm / 34 x 26 x 6 in
Private collection
(not exhibited)



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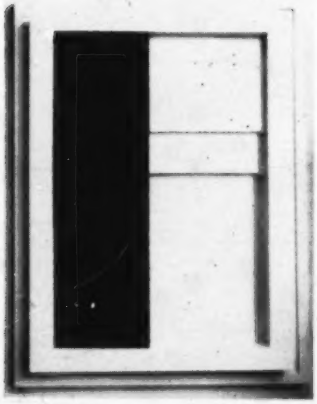

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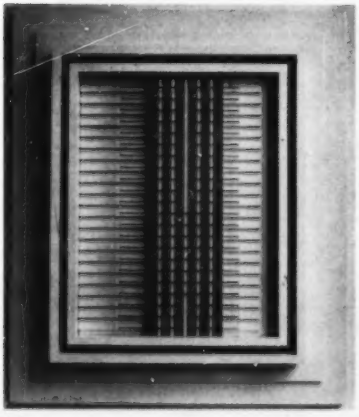

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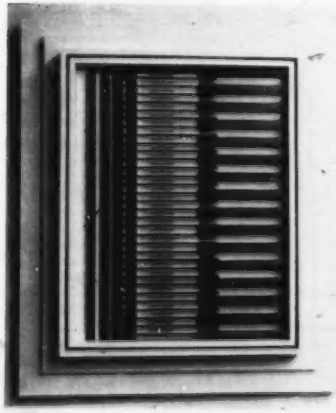

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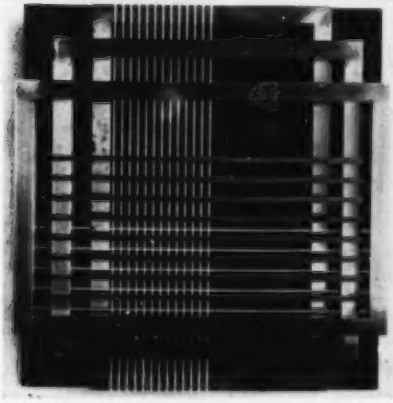

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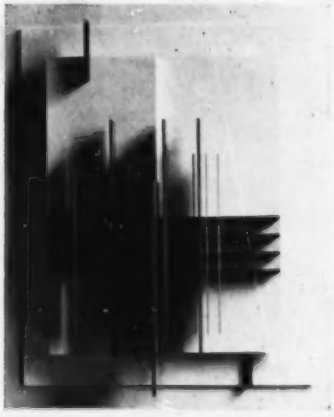

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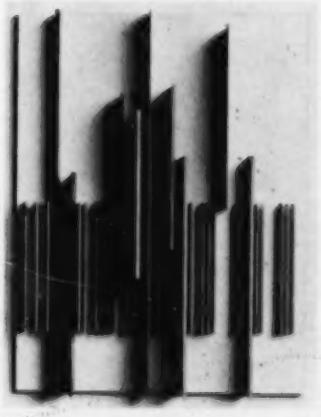

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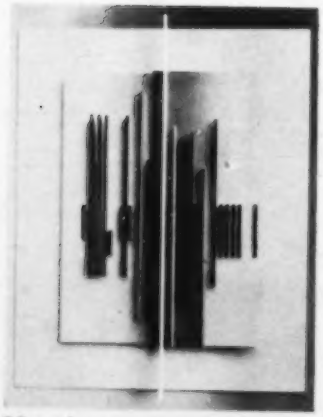

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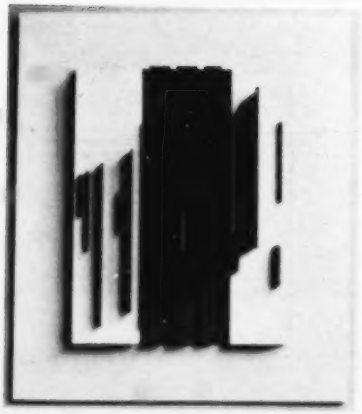

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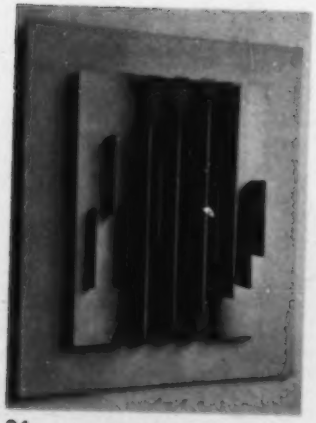

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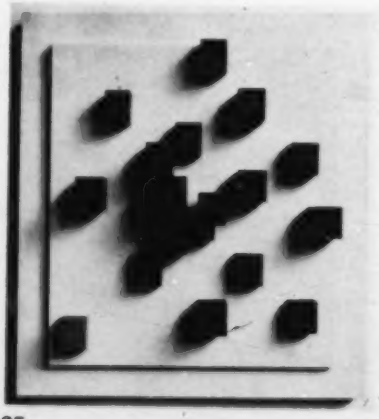

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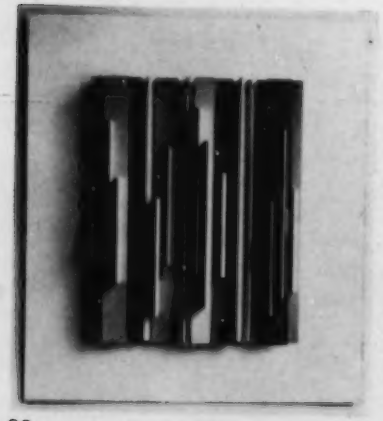

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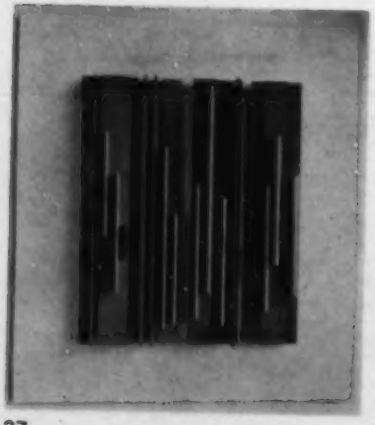


27

22 **Structurist work # 36B 1950, Red Wing**
Painted aluminium
97 x 77 x 15 cm / 38 x 30 x 6 in
Dr and Mrs Ben I. Heller, Oklahoma City, Oklahoma

23 **Structurist work # 53 1951, Red Wing**
Painted aluminium
76 x 66 x 11 cm / 30 x 26 x 5 in

24 **Structurist work # 54 1951, Red Wing**
Painted aluminium
83 x 68 x 14 cm / 33 x 27 x 6 in
Dr and Mrs Leighton H. Borin, Excelsior, Minnesota

25 **Teaching model 1951, Red Wing**
Painted wood
83 x 68 x 14 cm / 33 x 27 x 6 in

26 **Structurist work # 78 1952–53, Red Wing**
Painted aluminium
80 x 69 x 10 cm / 32 x 27 x 4 in

27 **Structurist work # 79 1952–53, Red Wing**
Painted aluminium
79 x 70 x 10 cm / 31 x 28 x 4 in

28 **Structurist work # 81 1952–53, Red Wing**
Painted aluminium
79 x 69 x 10 cm / 31 x 27 x 4 in

29 **Structurist work # 45 1953–68, Red Wing**
Painted aluminium
85 x 70 x 12 cm / 34 x 28 x 5 in

30 **Structurist work # 51 1953–68, Red Wing**
Painted aluminium
86 x 71 x 14 cm / 34 x 28 x 6 in

31 **Structurist work # 20 1954–65, Red Wing**
Painted aluminium
104 x 91 x 15 cm / 41 x 36 x 6 in
Tate Gallery, London

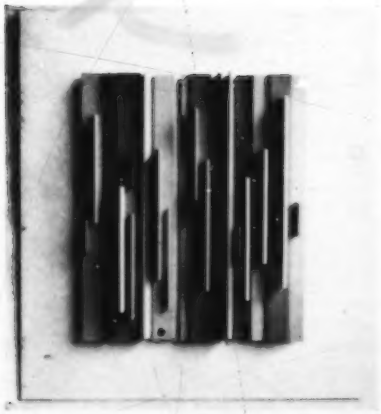
32 **Structurist work # 28 1954–67, Red Wing**
Painted aluminium
101 x 73 x 14 cm / 40 x 29 x 5 in

33 **Structurist work # 29 1954–67, Red Wing**
Painted aluminium
79 x 91 x 13 cm / 31 x 36 x 5 in

34 **Structurist work # 26 1956–68, Red Wing**
Painted aluminium
81 x 114 x 17 cm / 32 x 45 x 7 in

35 **Structurist work # 1 1958–62, Red Wing**
Painted aluminium
58 x 82 x 14 cm / 23 x 32 x 6 in
Mr and Mrs Jan van der Marck, Chicago

36 **Structurist work # 19 1958–64, Red Wing**
Painted aluminium
111 x 76 x 14 cm / 44 x 30 x 5 in



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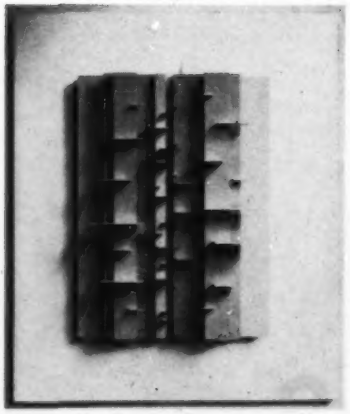

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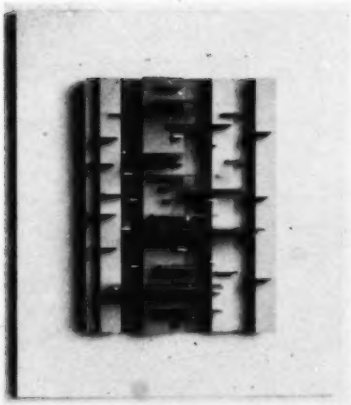

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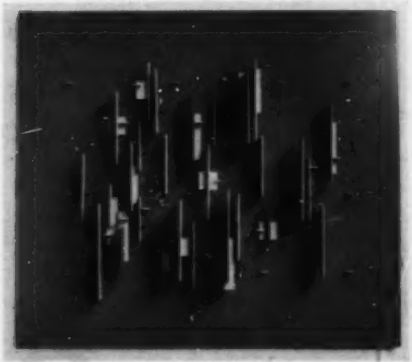

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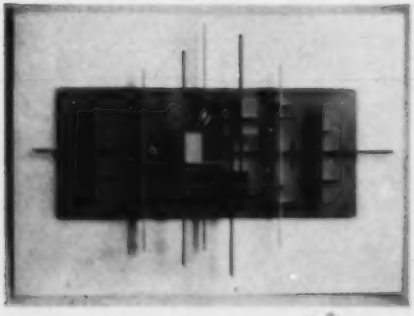

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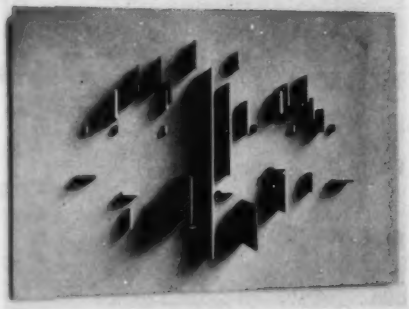

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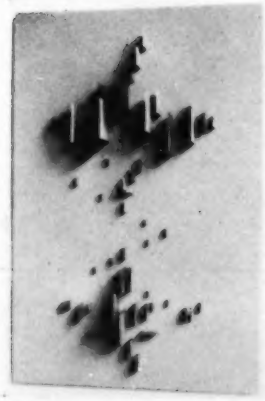

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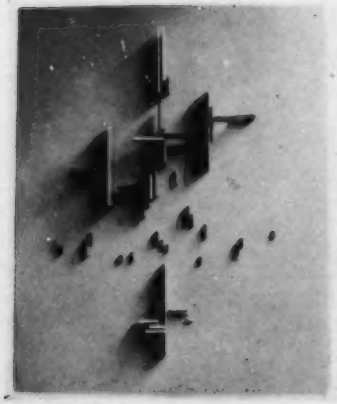

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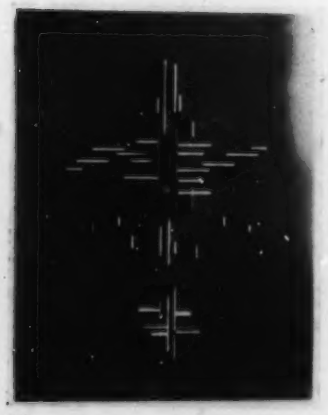


42

37 **Structurist work # 24 1958–62, Red Wing**
Painted aluminium
103 x 76 x 13 cm / 41 x 30 x 5 in

38 **Structurist work # 40 1958–64**
Painted aluminium
113 x 71 x 12 cm / 45 x 28 x 5 in
Mr and Mrs Louis Zelle, St Paul, Minnesota

39 **Structurist work # 26 (1) 1959–67, Red Wing**
Painted aluminium
88 x 52 x 8 cm / 35 x 20 x 3 in

40 **Structurist work # 26 (2) 1959–67, Red Wing**
Painted aluminium
88 x 52 x 8 cm / 35 x 20 x 3 in
Mrs Mary Biederman, Red Wing, Minnesota

41 **Structurist work # 35 1959–64, Red Wing**
Painted aluminium
122 x 94 x 23 cm / 48 x 37 x 9 in
Mr and Mrs M. A. Lipschultz, Chicago

42 **Structurist work # 45 1959–68, Red Wing**
Painted aluminium
91 x 74 x 18 cm / 36 x 29 x 7 in

43 **Structurist work # 48 1959–63, Red Wing**
Painted aluminium
122 x 93 x 22 cm / 48 x 37 x 9 in
Dr and Mrs Malcolm A. McCannel, St Paul, Minnesota

44 **Structurist work # 16 1960–65, Red Wing**
Painted aluminium
104 x 69 x 19 cm / 41 x 27 x 7in

45 **Structurist work # 16 1960–66, Red Wing**
Painted aluminium
104 x 69 x 19 cm / 41 x 27 x 7 in

46 **Structurist work # 43 1960–66, Red Wing**
Painted aluminium
104 x 73 x 17 cm / 41 x 29 x 7 in

47 **Structurist work # 57 1960–64, Red Wing**
Painted aluminium
112 x 80 x 18 cm / 44 x 32 x 7 in

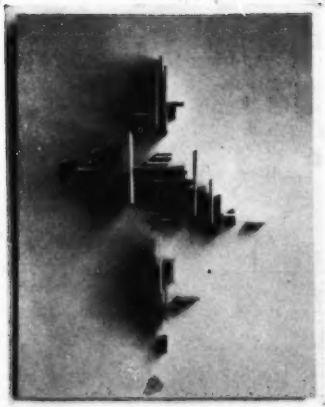
48 **Structurist work # 19 1961–67, Red Wing**
Painted aluminium
95 x 78 x 16 cm / 38 x 31 x 6 in

49 **Structurist work # 50 1962–67, Red Wing**
Painted aluminium
100 x 75 x 20 cm / 40 x 30 x 8 in

50 **Structurist work # 52 1962–69, Red Wing**
Painted aluminium
102 x 77 x 23 cm / 40 x 30 x 9 in

51 **Structurist work # 54 1962–65, Red Wing**
Painted aluminium
104 x 76 x 16 cm / 41 x 30 x 6 in
Mr and Mrs Louis F. Polk, Jr., Wayzata, Minnesota

52 **Structurist work # 36 1964–66, Red Wing**
Painted aluminium
101 x 74 x 16 cm / 40 x 29 x 6 in
Mr and Mrs Morris Chalfen, Minneapolis



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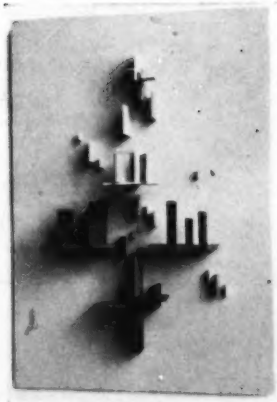

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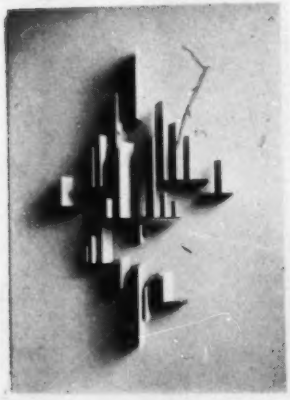

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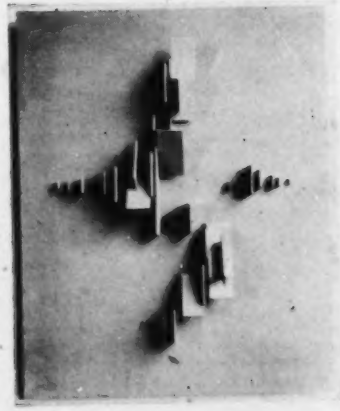

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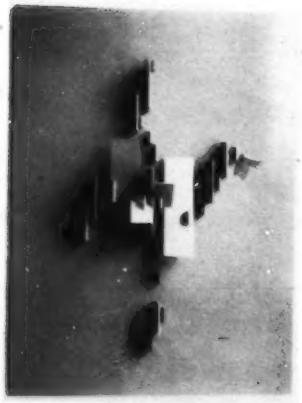

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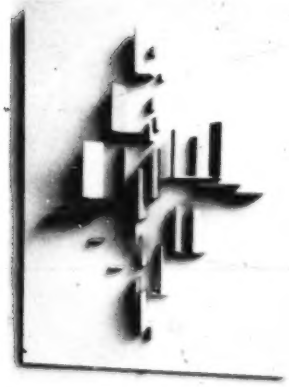

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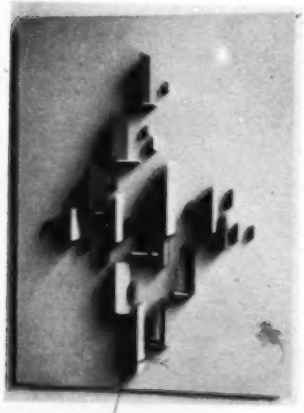

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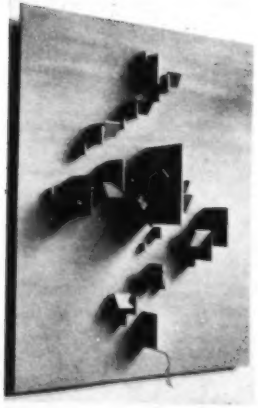

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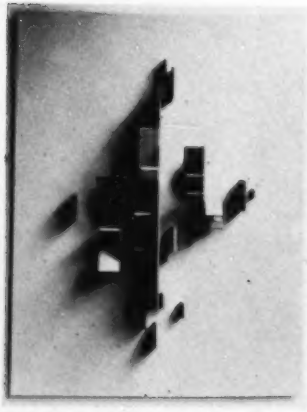

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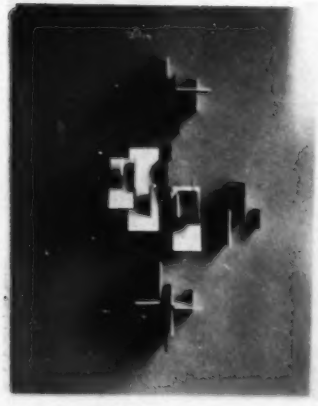


58

53 **Structurist work # 59 1964–68, Red Wing**
Painted aluminium
105 x 75 x 18 cm / 41 x 30 x 7 in
Mrs Stuart Wells, Jr., Wayzata, Minnesota

54 **Structurist work # 18 1965–67, Red Wing**
Painted aluminium
101 x 69 x 14 cm / 40 x 27 x 6 in

55 **Structurist work # 28 1965–67, Red Wing**
Painted aluminium
102 x 70 x 13 cm / 40 x 28 x 5 in

56 **Structurist work # 37 1965–69, Red Wing**
Painted aluminium
101 x 79 x 16 cm / 40 x 31 x 6 in

57 **Structurist work # 3 1967–68, Red Wing**
Painted aluminium
102 x 75 x 23 cm / 40 x 30 x 9 in

58 **Structurist work # 12 1967–68, Red Wing**
Painted aluminium
99 x 74 x 18 cm / 39 x 29 x 7 in

59 **Structurist work # 20 1967–68, Red Wing**
Painted aluminium
102 x 79 x 17 cm / 40 x 31 x 7 in

60 **Structurist work # 33 1967–68, Red Wing**
Painted aluminium
106 x 76 x 15 cm / 42 x 30 x 6 in
Mr and Mrs W. Wallace Barrett, St Paul, Minnesota

61 **Structurist work # 36 1967–68, Red Wing**
Painted aluminium
102 x 75 x 16 cm / 40 x 30 x 6 in

62 **Structurist work # 7 1968–69, Red Wing**
Painted aluminium
99 x 74 x 17 cm / 39 x 29 x 7 in

63 **Structurist work # 14 1968–69, Red Wing**
Painted aluminium
102 x 74 x 21 cm / 40 x 29 x 9 in

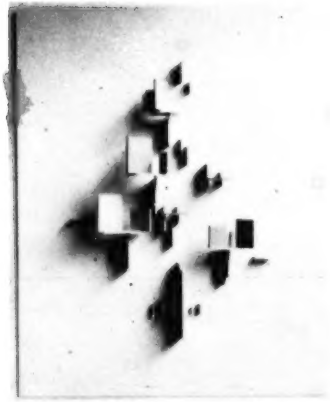
64 **Structurist work # 20 1968–69, Red Wing**
Painted aluminium
99 x 73 x 18 cm / 39 x 29 x 7 in

65 **Structurist work # 23 1968–69, Red Wing**
Painted aluminium
98 x 79 x 14 cm / 39 x 31 x 5 in

66 **Structurist work # 27 1968–69, Red Wing**
Painted aluminium
105 x 74 x 20 cm / 41 x 29 x 8 in

67 **Structurist work # 28 1968–69, Red Wing**
Painted aluminium
98 x 75 x 20 cm / 39 x 30 x 8 in

68 **Structurist work # 29 1968–69, Red Wing**
Painted aluminium
97 x 71 x 17 cm / 38 x 28 x 7 in



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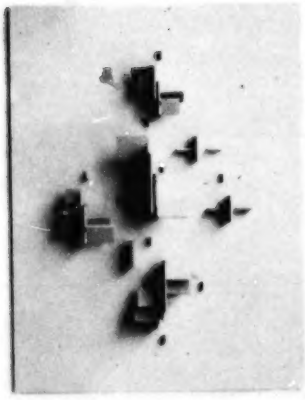

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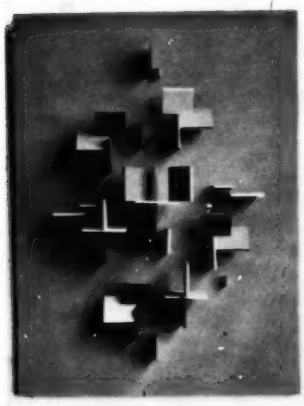

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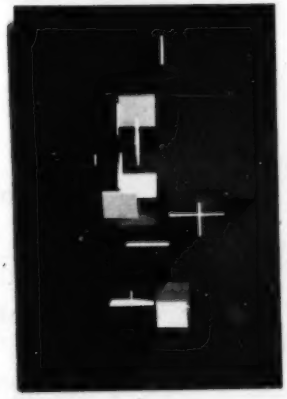

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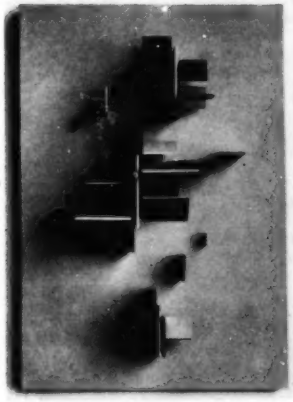

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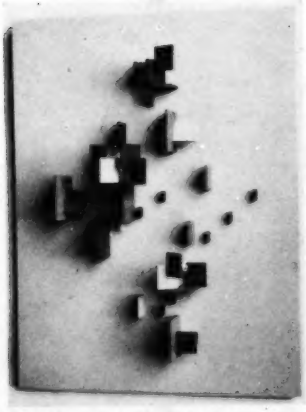

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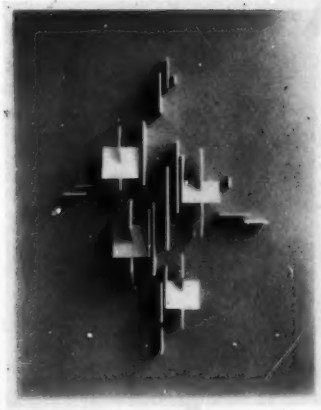

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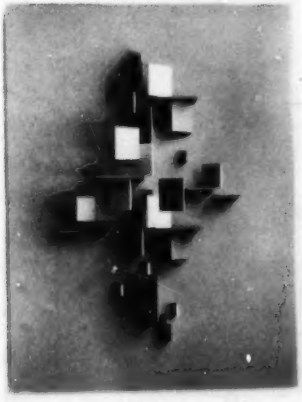

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Pre-Structurist works 1927–37

69 Still-life 1929, Chicago
Oil on canvas 91 x 60 cm / 36 x 24 in

70 Self-portrait 1.1932, Chicago
Oil on canvas 99 x 62 cm / 39 x 24 in

71 Painting 11.1935, New York
Oil on canvas 84 x 69 cm / 33 x 27 in

72 Painting 1.1936, New York
Oil on canvas 130 x 97 cm / 51 x 38 in

73 Painting 5.9.1936, New York
Oil on canvas 137 x 91 cm / 54 x 36 in

74 Painting 11.21.1936, Paris
Oil on canvas 130 x 89 cm / 51 x 35 in

75 Painting 12.16.1936, Paris
Oil on canvas 130 x 89 cm / 51 x 35 in

76 Painting 12.1936, Paris
Oil on canvas 130 x 89 cm / 51 x 35 in

77 Painting 1.14.1937, Paris
Oil on canvas 116 x 89 cm / 46 x 35 in

78 Painting 1.17.1937, Paris
Oil on canvas 116 x 89 cm / 46 x 35 in

79 Painting 1.19.1937, Paris
Oil on canvas 116 x 89 cm / 46 x 35 in

80 Painting 2.7.1937, Paris
Oil on canvas 116 x 89 cm / 46 x 35 in

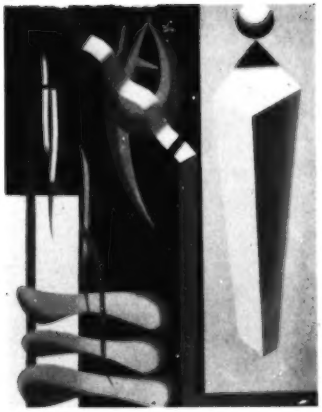
81 Painting 2.17.1937, Paris
Oil on canvas 130 x 89 cm / 51 x 35 in

82 Painting 3.7.1937, Paris
Oil on canvas 131 x 97 cm / 52 x 38 in

83 Painting 3.11.1937, Paris
Oil on canvas 88 x 130 cm / 35 x 51 in

84 Painting 3.17.1937, Paris
Oil on canvas 97 x 131 cm / 38 x 52 in

76



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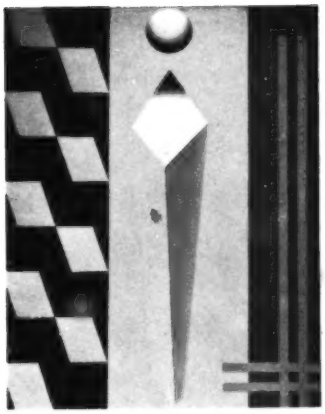

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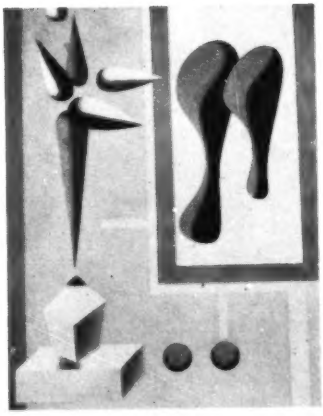

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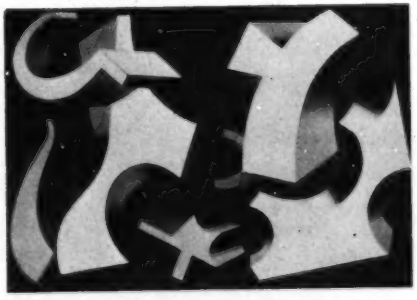

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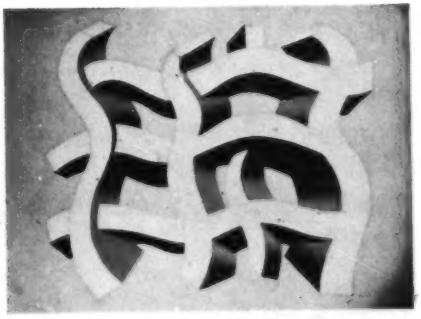

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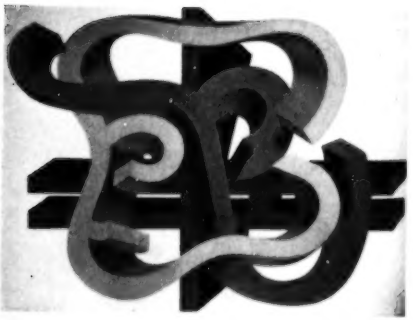

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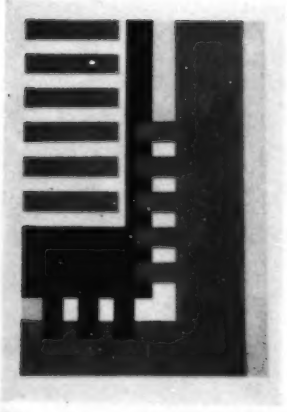

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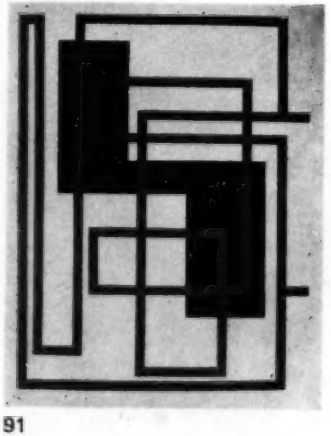
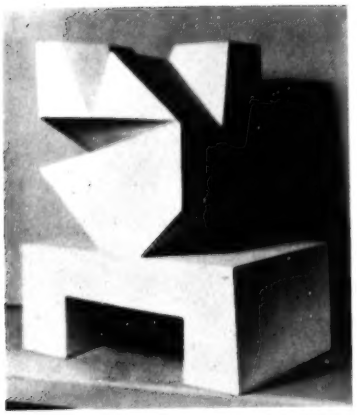


91

85 **Painting 4.1937, Paris**
Oil on canvas 130 x 97 cm / 51 x 38 in
86 **Painting 5.7.1937, Paris**
Oil on canvas 97 x 131 cm / 38 x 52 in
87 **Painting 5.10.1937, Paris**
Oil on canvas 97 x 130 cm / 38 x 51 in
88 **Painting 5.16.1937, Paris**
Oil on canvas 97 x 130 cm / 38 x 51 in
89 **Painting 5.1937, Paris**
Oil on canvas 130 x 97 cm / 51 x 38 in
90 **Full-scale study for Structurist work 5.23.1937, Paris**
Oil on canvas 130 x 89 cm / 51 x 35 in
91 **Full-scale study for Structurist work 5.1937, Paris**
Oil on canvas 116 x 89 cm / 46 x 35 in

d **Model for outdoor sculpture 1936, New York**
Painted metal 63 cm / 25 in high
(not exhibited)
e **Model for outdoor sculpture 1937, New York**
Plaster 30 cm / 12 in high
(not exhibited)
f **Model for outdoor sculpture 1937, New York**
Stone 44 cm / 17 in high
(not exhibited)
g **Outdoor sculpture 1937, Red Wing**
Concrete and painted metal
198 cm / 78 in high
Private collection
(not exhibited)

92 **Study of nude 1927, Chicago**
Crayon 30 x 24 cm / 12 x 10 in
93 **Portrait 1929, Chicago**
Lithograph 34 x 27 cm / 14 x 11 in
94 **Self-portrait 1929, Chicago**
Lithograph 32 x 25 cm / 13 x 10 in
95 **Self-portrait 1929, Chicago**
Crayon 30 x 30 cm / 12 x 12 in
96 **Study for painting 1929, Chicago**
Charcoal 48 x 27 cm / 19 x 11 in
97 **Head study 1929, Chicago**
Charcoal 59 x 39 cm / 23 x 15 in
98 **Self-portrait 1930, Chicago**
Charcoal 65 x 51 cm / 26 x 20 in
99 **Untitled 1934, New York**
Ink 46 x 30 cm / 18 x 12 in



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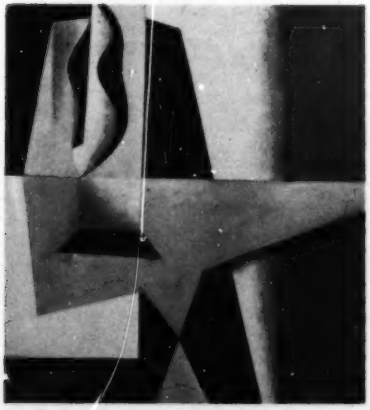

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100 **Untitled 1934, New York**
Ink 45 x 30 cm / 18 x 12 in
101 **Untitled 2.1935, New York**
Ink 46 x 30 cm / 18 x 12 in
102 **Untitled 5.1935, New York**
Collage with crayon and pencil
51 x 38 cm / 20 x 15 in
103 **Untitled 6.1935, New York**
Collage with crayon
72 x 55 cm / 28 x 22 in
104 **Untitled 6.1935, New York**
Gouache with conté
36 x 28 cm / 14 x 11 in
105 **Untitled 6.1935, New York**
Collage with conté
45 x 39 cm / 18 x 15 in
106 **Untitled 9.1935, New York**
Pencil and crayon 43 x 35 cm / 17 x 14 in
107 **Untitled 10.1935, New York**
Ink 43 x 36 cm / 17 x 14 in
108 **Untitled 11.1935, New York**
Ink 49 x 38 cm / 19 x 15 in
109 **Study for 15-ft mural 1935, New York**
Ink 45 x 20 cm / 18 x 8 in
100 **Study for 25-ft mural 12.1935, New York**
Ink 60 x 38 cm / 24 x 15 in
111 **Untitled 11.1935, New York**
Ink and wash 64 x 48 cm / 25 x 19 in
h **Rope relief 1935, New York**
Gouache with rope and objects on board
59 x 43 cm / 23 x 17 in
(not exhibited)
i **String relief 1935, New York**
Ink with tacks and string on wood
76 x 55 cm / 30 x 22 in
(not exhibited)
112 **Untitled 1.1936, New York**
Gouache and pencil 24 x 17 cm / 10 x 7 in
113 **Untitled 2.1936, New York**
Gouache 36 x 30 cm / 14 x 12 in
114 **Untitled 2.1936, New York**
Gouache 55 x 51 cm / 22 x 20 in
115 **Untitled 2.1936, New York**
Gouache 67 x 42 cm / 26 x 17 in
116 **Untitled 2.1936, New York**
Gouache 24 x 18 cm / 10 x 7 in
117 **Untitled 2.1936, New York**
Gouache 26 x 20 cm / 10 x 8 in
118 **Untitled 3.1936, New York**
Collage 76 x 71 cm / 30 x 28 in

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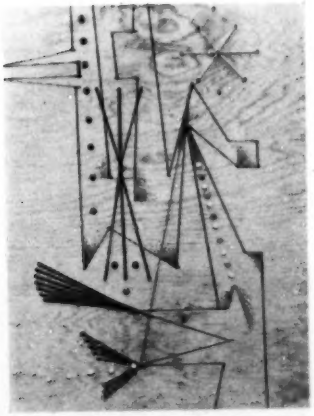
h



i

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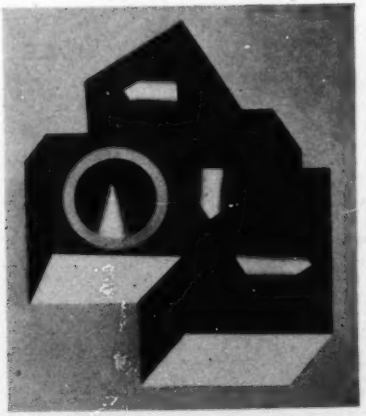

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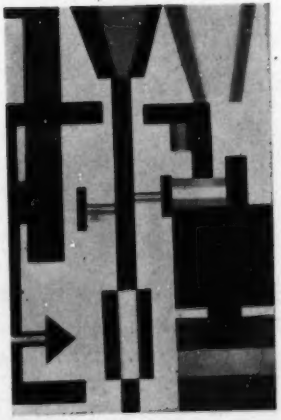

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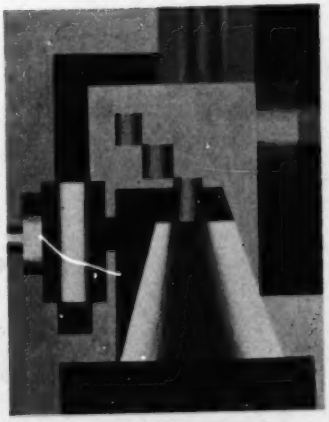

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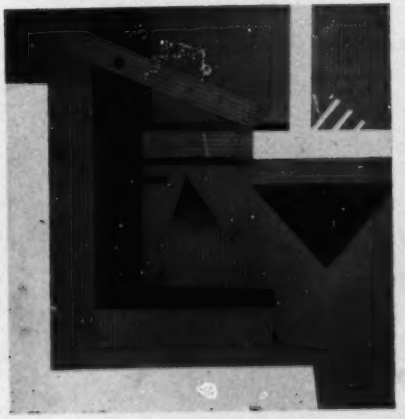

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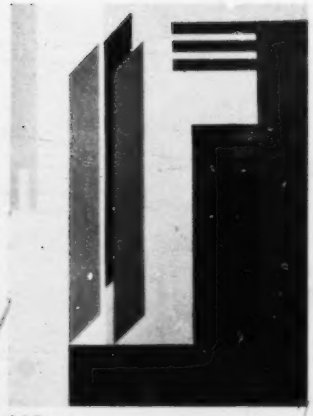

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119 **Untitled 3.1936, New York**
Gouache 59 x 43 cm / 23 x 17 in

120 **Untitled 3.1936, New York**
Gouache with conté
69 x 51 cm / 27 x 20 in

121 **Untitled 4.1936, New York**
Ink, conté and pencil
64 x 48 cm / 25 x 19 in

122 **Untitled 4.1936, New York**
Collage with ink, pencil, crayon and wash
72 x 57 cm / 29 x 23 in

123 **Untitled 5.1936, New York**
Collage with ink, pencil, crayon and wash
62 x 51 cm / 25 x 20 in

124 **Untitled 5.1936, New York**
Collage with ink, crayon and pencil
71 x 53 cm / 28 x 21 in

125 **Untitled 5.1936, New York**
Ink and pencil 76 x 56 cm / 30 x 22 in

126 **Untitled 6.1936, New York**
Collage with pencil, ink and conté
60 x 51 cm / 24 x 20 in

127 **Untitled 6.1936, New York**
Collage with ink, pencil, crayon and conté
46 x 40 cm / 18 x 16 in

128 **Untitled 8.1936, New York**
Ink on sandpaper 27 x 22 cm / 11 x 9 in

129 **Untitled 8.1936, New York**
Ink on sandpaper 27 x 22 cm / 11 x 9 in

130 **Untitled 1936, New York**
Gouache 20 x 33 cm / 8 x 13 in

131 **Untitled 1936, New York**
Gouache 34 x 28 cm / 13 x 11 in

132 **Untitled 1936, New York**
Gouache 25 x 18 cm / 10 x 7 in

133 **Untitled 12.1936, Paris**
Gouache 65 x 50 cm / 26 x 20 in

134 **Untitled 1.1937, Paris**
Gouache and ink 65 x 48 cm / 26 x 19 in

135 **Study for outdoor sculpture 1937, Paris**
Ink and wash 38 x 31 cm / 15 x 12 in

136 **Study for outdoor sculpture 1.1937, Paris**
Gouache 45 x 35 cm / 18 x 14 in

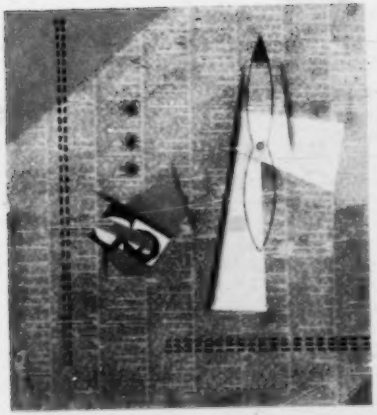
137 **Study for colour sculpture outdoors 1.1937, Paris**
Gouache 46 x 36 cm / 18 x 14 in

138 **Studies for colour sculpture 2.1937, Paris**
Gouache 46 x 36 cm / 18 x 14 in

139 **Study for colour sculpture 2. 1937, Paris**
Gouache 43 x 33 cm / 17 x 13 in

140 **Study for painting 2.1937, Paris**
Gouache 46 x 36 cm / 18 x 14 in

141 **Study for painting 3.1937, Paris**
Gouache 36 x 43 cm / 14 x 17 in



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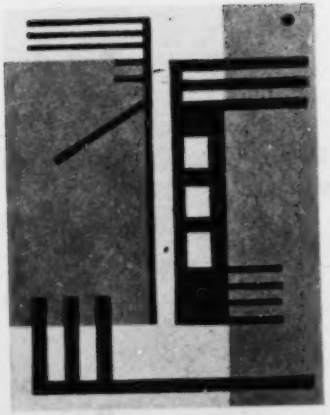

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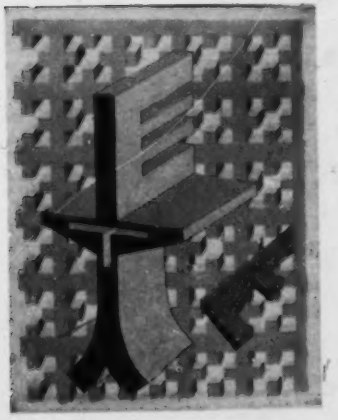

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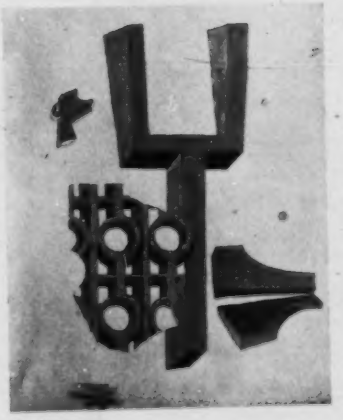

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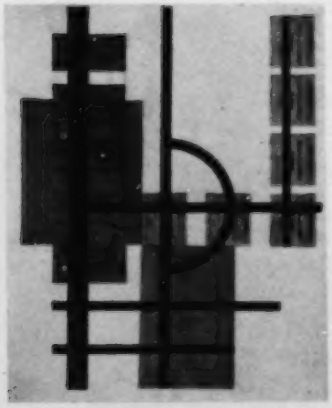

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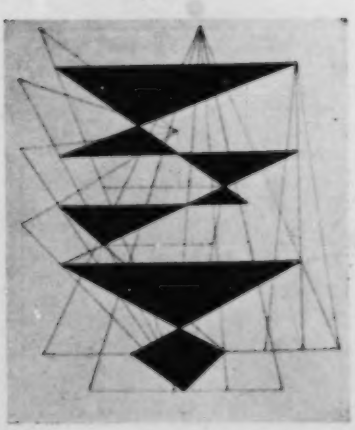

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142 **Untitled 3.1937, Paris**
Ink 56 x 33 cm / 22 x 13 in

143 **Untitled 3.1937, Paris**
Ink · 56 x 33 cm / 22 x 13 in

144 **Untitled 3.1937, Paris**
Ink 56 x 34 cm / 22 x 14 in

145 **Untitled 3.1937, Paris**
Ink 56 x 38 cm / 22 x 15 in

146 **Untitled 3.1937, Paris**
Ink 53 x 30 cm / 21 x 12 in

147 **Untitled 3.1937, Paris**
Collage 62 x 47 cm / 24 x 19 in

148 **Untitled 5.1937, Paris**
Gouache 65 x 50 cm / 26 x 20 in

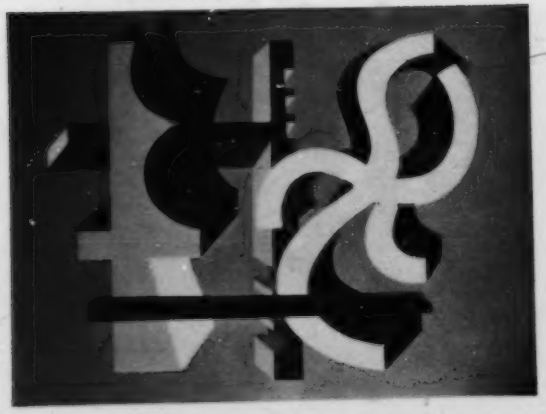
149 **Study for colour sculpture outdoors 1937, New York**
Lithograph 37 x 28 cm / 15 x 11 in
Mr and Mrs Robyn Denny, London

150 **Study for colour sculpture outdoors 1937, New York**
Lithograph 38 x 28 cm / 15 x 11 in

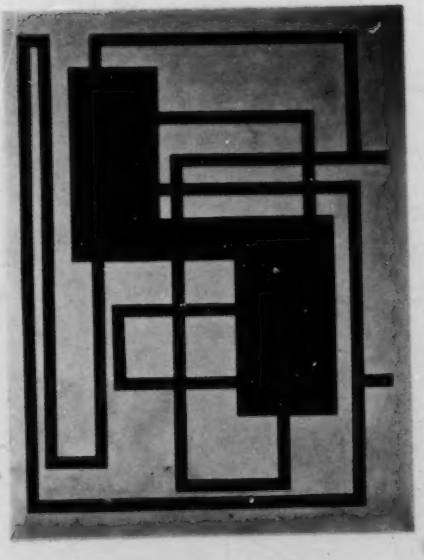
151 **Study for colour sculpture outdoors 1937, New York**
Lithograph with ink and pencil
22 x 18 cm / 9 x 7 in

Painting 11.21.1936, Paris (74)

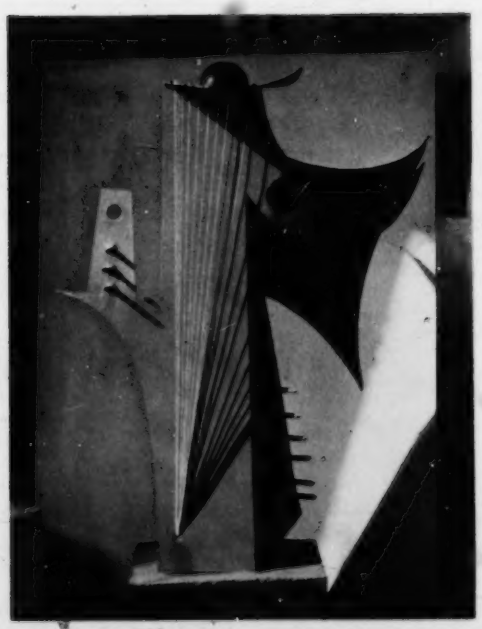
Painting 3.7.1937, Paris (82)



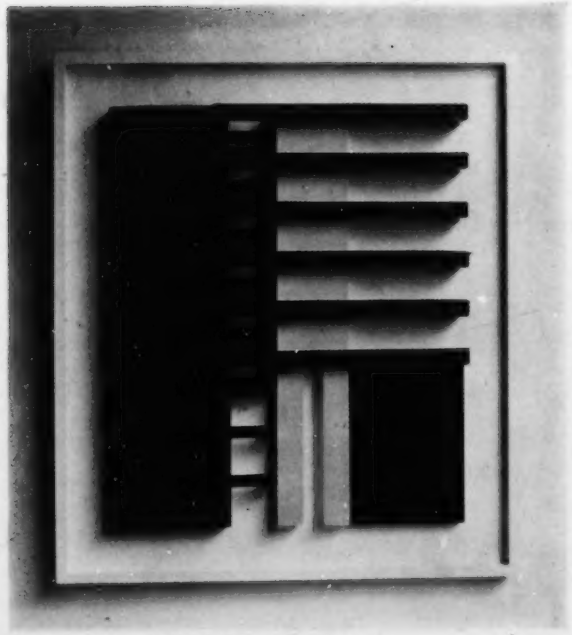
Painting 5.7.1937, Paris (86)



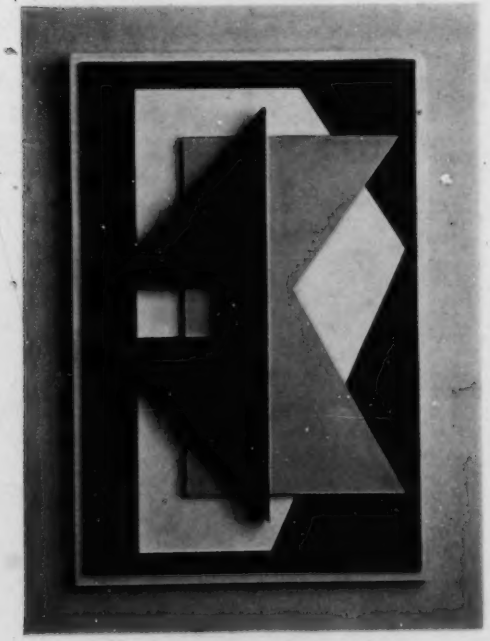
Study for Structurist work 5.1937, Paris (91)



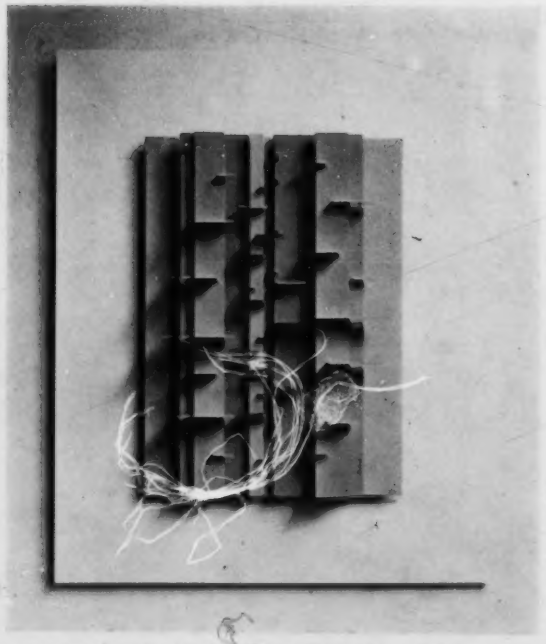
Model for outdoor sculpture 1936, New York (d. p. 34)



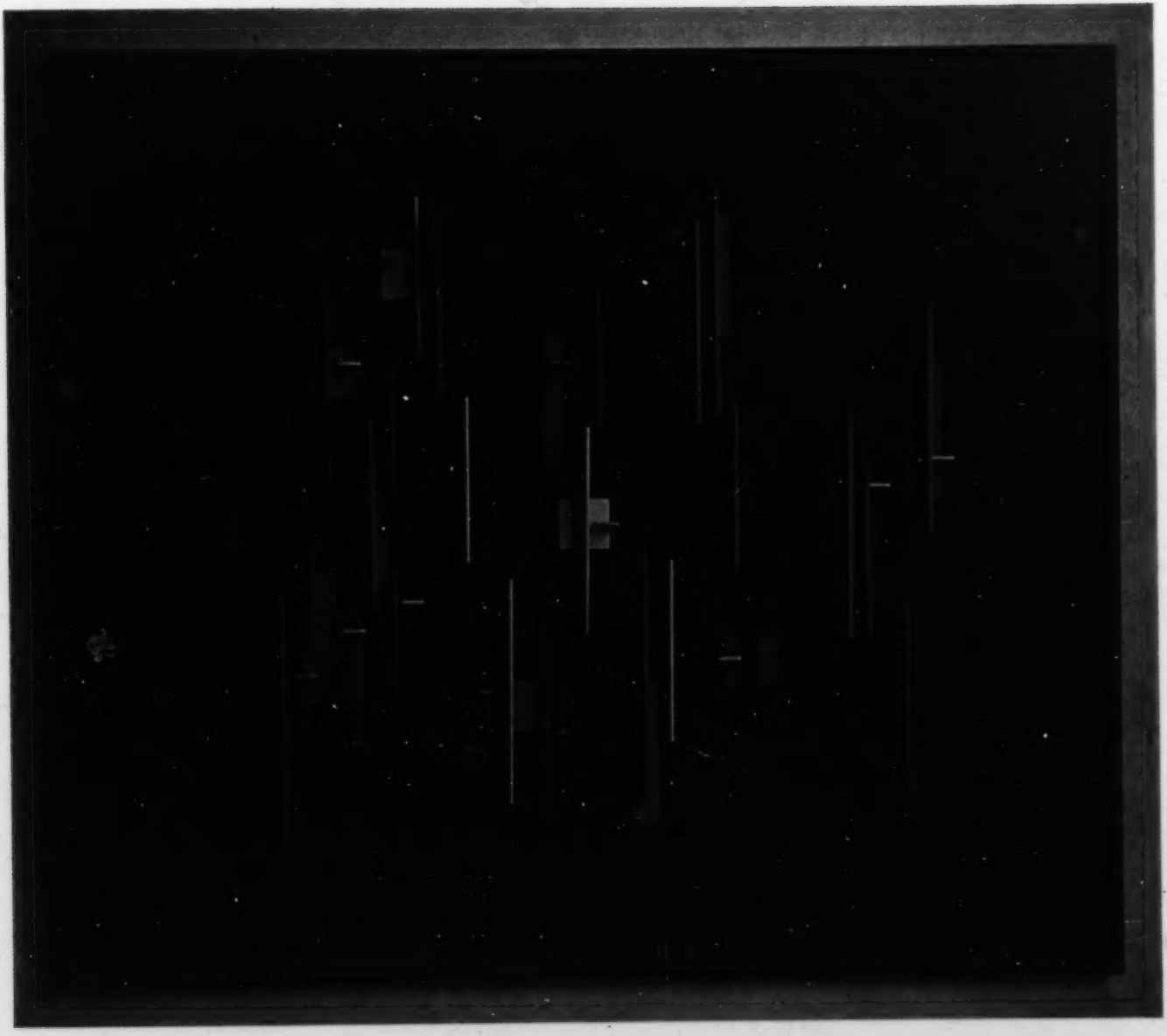
Structurist work # 4 1937, Paris (5)



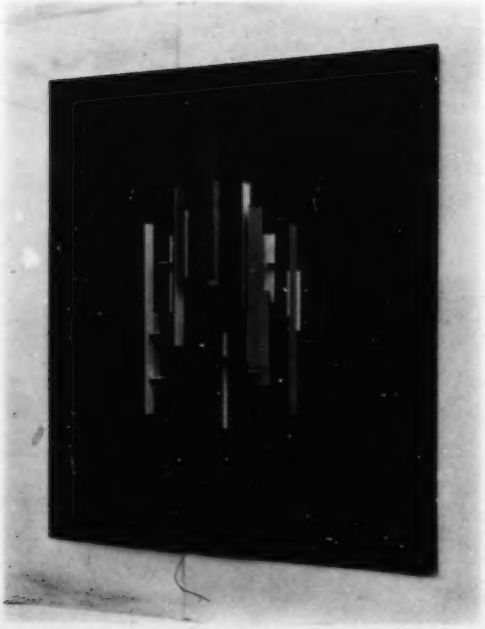
Structurist work # 7 1938, New York (10)



Structurist work # 45 1953–68, Red Wing.(29)



43 Structurist work # 29 1954–67. Red Wing (33)



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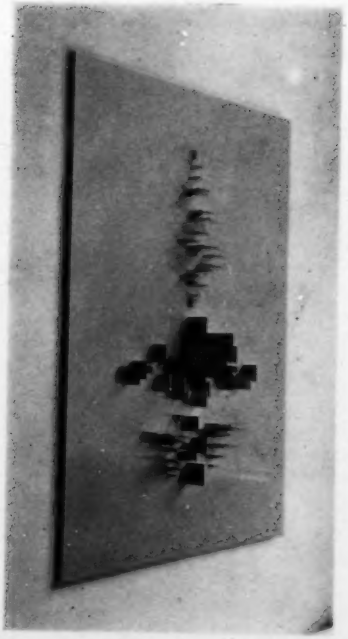
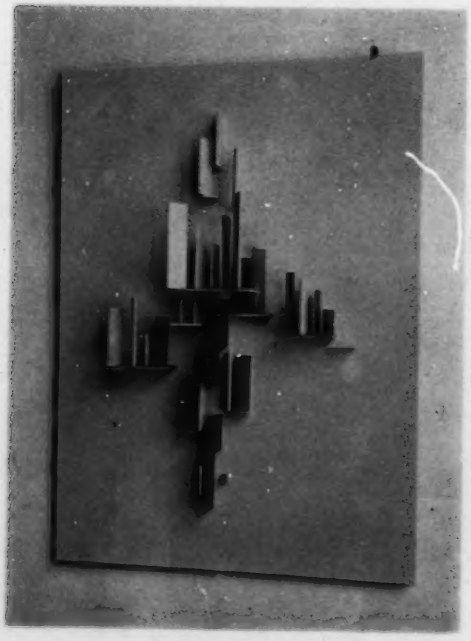


Structurist work # 19 1958–64, Red Wing (36)



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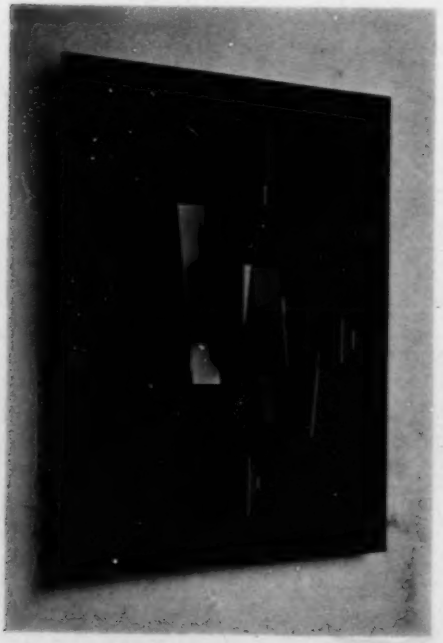

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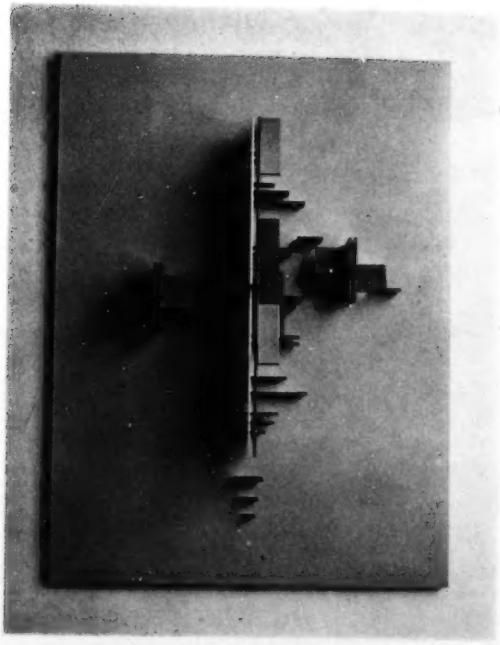

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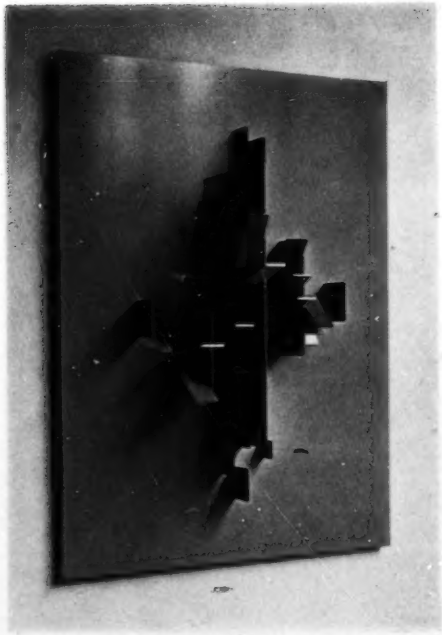
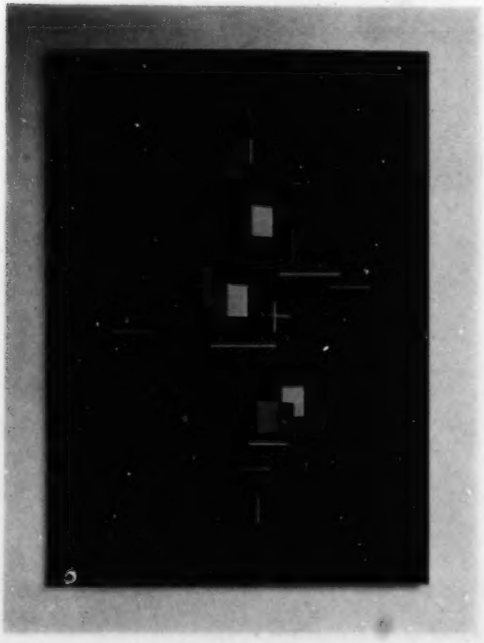


Structurist work # 3 1967–68, Red Wing (57)



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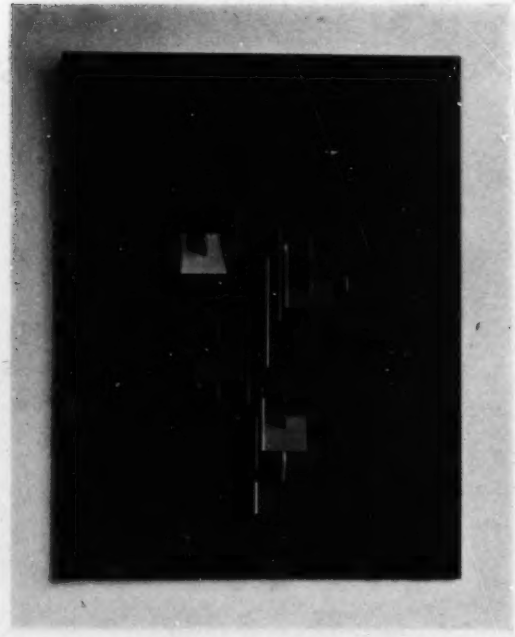

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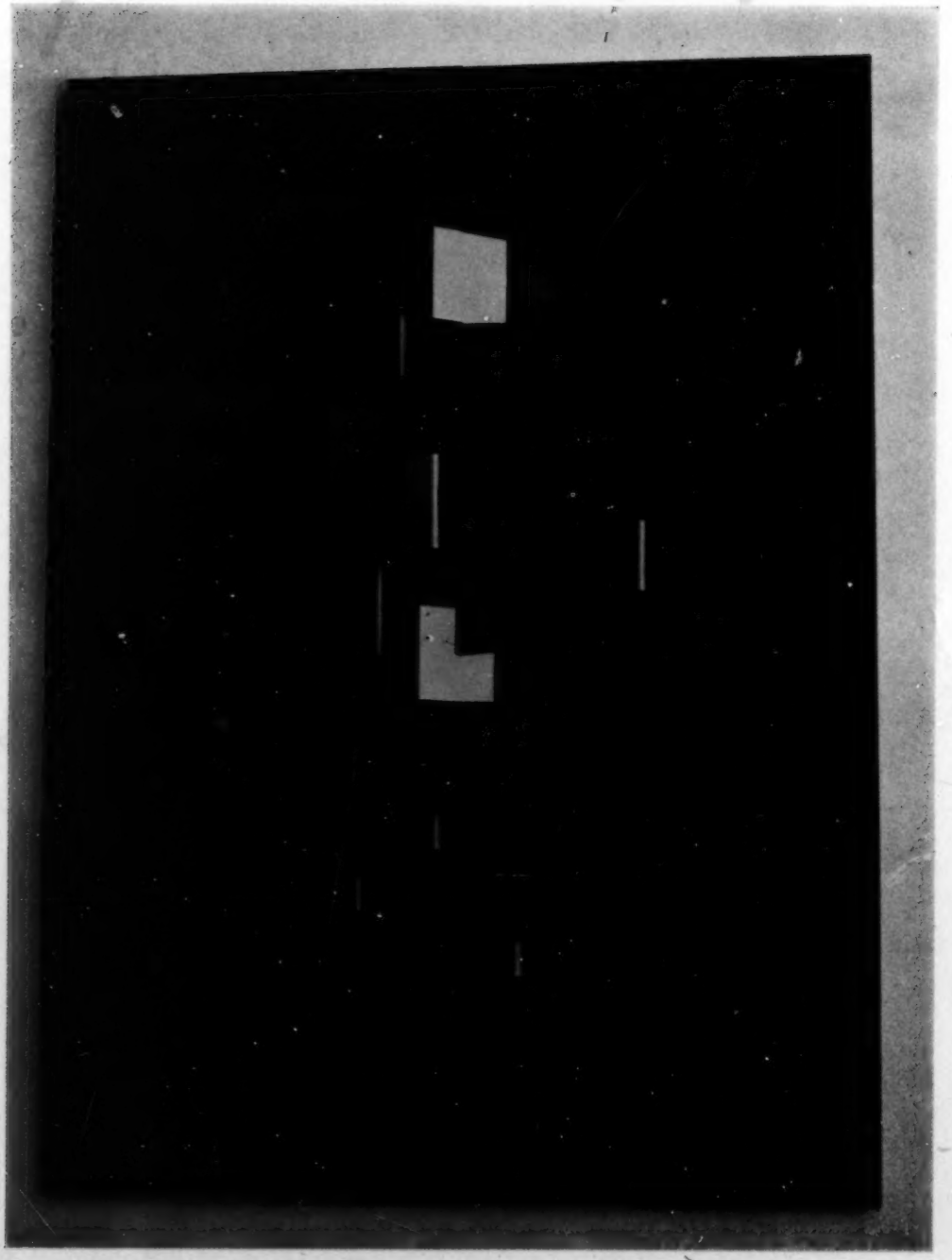

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Published by the Arts Council of Great Britain

Designed by Hugh Shaw

4,000 copies printed by the Shenval Press, London, Hertford and Harlow

Set in Monotype Univers 685, 689, 693 and 696

Cover is two-sided white art board from the Inveresk Paper Co Ltd, who also supplied the art paper

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